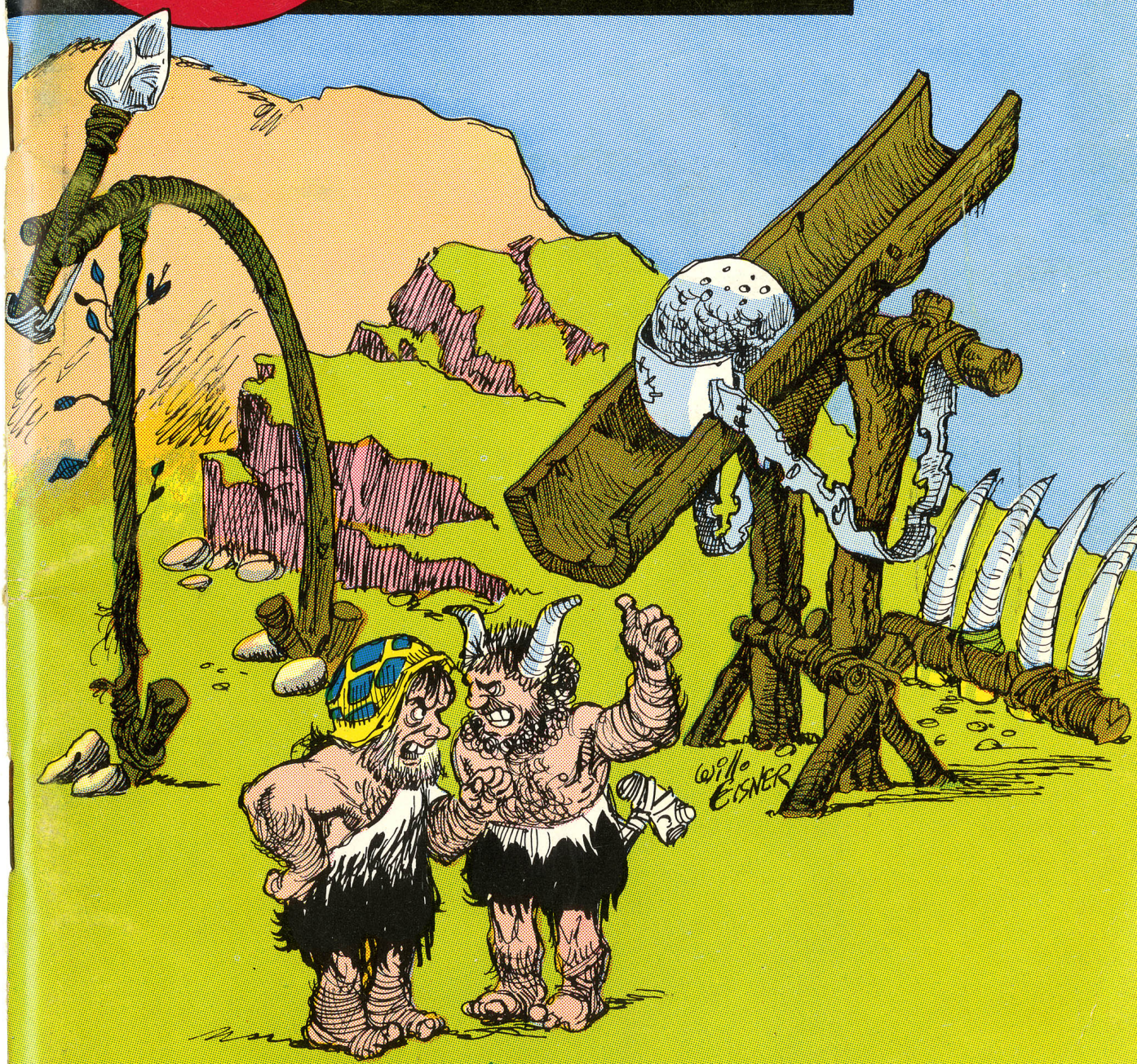
Issue 90

PS

1960 Series

THE PREVENTIVE MAINTENANCE MONTHLY



Aah, what's the point of all this maintenance jazz . . . The next war'll be fought with gunpowder and all this gear will be replaced with new stuff anyhow!

Cold, Hot or Make Believe . . .

THE GOOD ONES

Half-Mast shuffled in from a field trip the other day, looking a little more thoughtful than usual.

"You know, Connie, that fellow Milton sure knew what he was talking about. I've got to hand it to the old boy."

The 34 TM's Connie was carrying hit the floor with a thud. "Milton! Are you going literary on us? You don't mean John Milton by any chance?"

"Yeah, that's the guy. The one who said 'Peace hath her victories no less renown'd than war'."

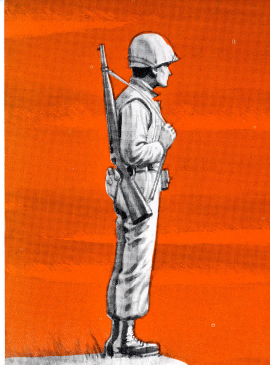
Connie's right eyebrow went all the way up to her hairline.

"They have this line stuck up in the headquarters of one of the battalions I was visiting, along with all those crazy signs. It sorta keeps 'em reminded that all the important battles aren't fought on battlegrounds.

"Sometimes the toughest battles have to be fought right in garrison. . . .It's no snap pulling peace-time duty . . . with all the little peace-time demands for your time always sniping at you . . . with no feeling of urgency to keep you going until the job is done. It takes a special kind of attitude . . . encouragement . . . and leadership to keep an outfit on its toes when there's no real thunder over the horizon."

Connie's eyebrow dropped back to normal but she was still speechless.

"Trouble is, some outfits either don't have the knack of winning battles in peace-time, or else they think that sort of stuff is below them. Man, if they just knew how



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WIN 'EM ALL

"Sure, I know. They all say 'To heck with this stuff. Things will be a lot different if the old gong sounds. We won't have to fool with these chicken feathers!'

"But what they don't realize is that any outfit worth the ink on its TOE can lick any problem, peace-time or what have you. It's got that old determination not to be stopped—by anybody . . . or anything . . . at anytime. And they put just as much effort and pride into staying ready to fight as they do in fighting."

Connie finally shook herself out of her trance.

"You mind if we get back to Milton for a minute?"

"Uh, no." Half-Mast was a little embarrassed at his literary outburst.

"There's another quote that also helps to sum up the situation."

"What's that?"

" 'They also serve who only stand and wait'."

"That's for sure," said Half-Mast as he bent to pick up the TM's. "That's for #@!&$# sure."

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Your clothing, that is.

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The secret is to act fast with the right cleaner. You can clobber spots and stains every time with the first law of the infantry: Rub 'em out before they dig in. The longer they stick around the harder they are to get out.

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So name your brand... grease, blood, tar, lipstick, wine? There's an anti-spot formula for each.

FOR THE MAN WHO HAS

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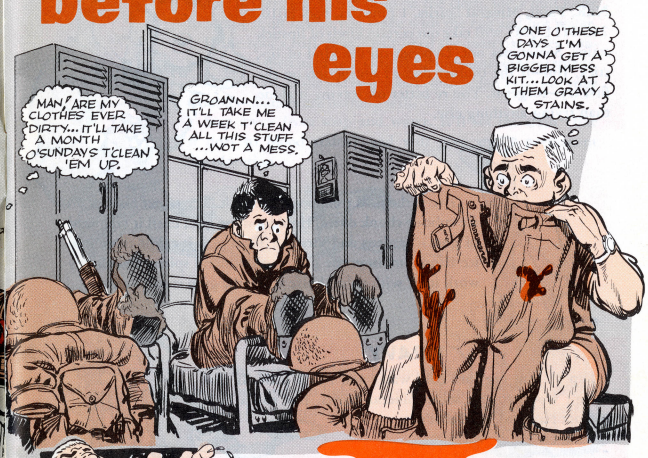

BLOOD

Don't use hot water or soap and water on blood stains. They'll set the stain, making it just about impossible to take out. Dip a clean rag in cold water and start rubbing until the stain is gone. If this doesn't turn the trick, use a clean rag to rub some ammonia on the spot. Wait a minute, and then rub the same spot with a rag dipped in cold water.

The spot still there? Bring in the heavy artillery. Make a thick paste of corn starch and cold water—and spread it on the spot. When the starch is dry, pick it up and brush off any specks that stick to the cloth.

For really bad stains, give 'em the corn starch treatment a few more times.

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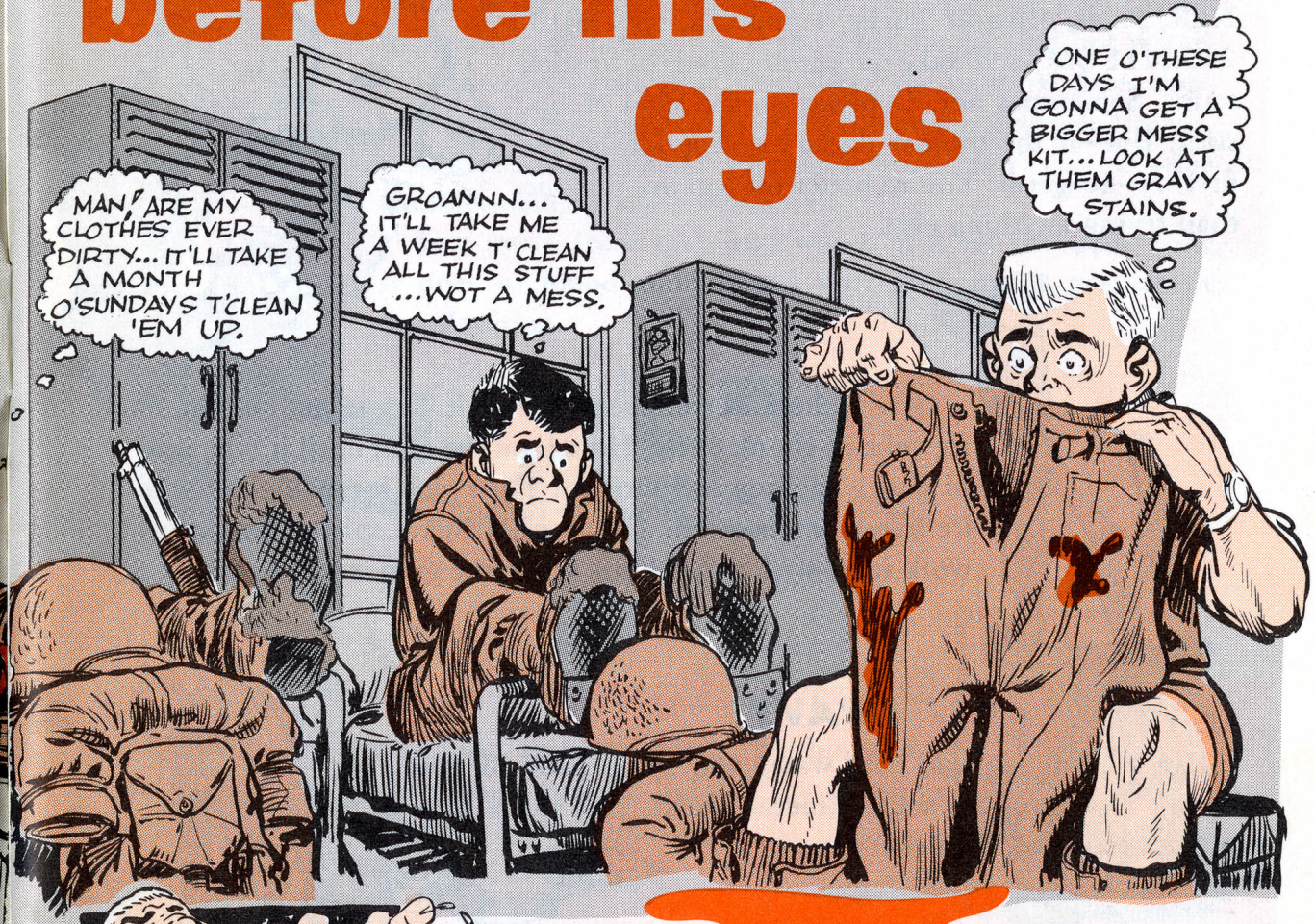

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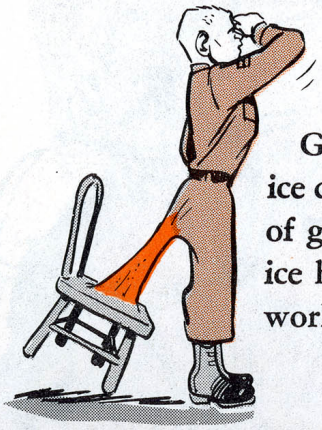
LIPSTICK

Anybody interested? It's just about the toughest stuff to shake. Sometimes mineral spirits (THINNER, Paint, Mineral Spirits, 1 pint can, FSN 8010-246-6111 QM) will take out certain kinds of lipstick stains. Sometimes not. Depends on the kind of lipstick. **But**—if the thinner doesn't do the job on the first try—forget it. You're better off leaving it alone than trying anything else.

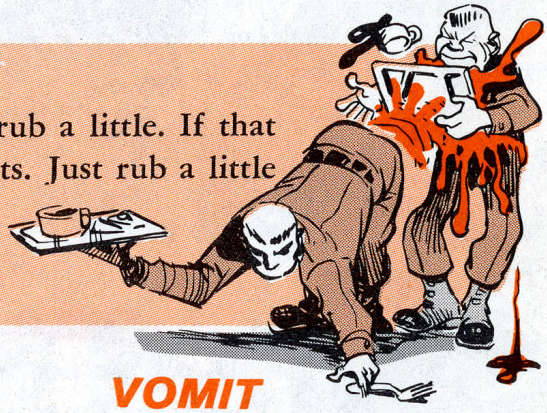


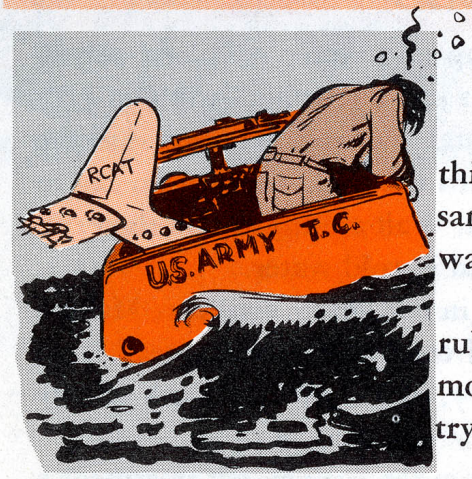
CHEWING GUM

Give it the cold treatment. Freeze it. Try to get hold of an ice cube or chunk of ice. Hold it on the gum until it (the wad of gum) hardens and shrivels. Then pick it off. If there's no ice handy, moisten the gum with mineral spirits and slowly work it off with a dull knife while the gum is still moist.

GRAVY

Dip a clean rag into cold water and rub a little. If that doesn't work, rub on some mineral spirits. Just rub a little and not too hard. And that's it.



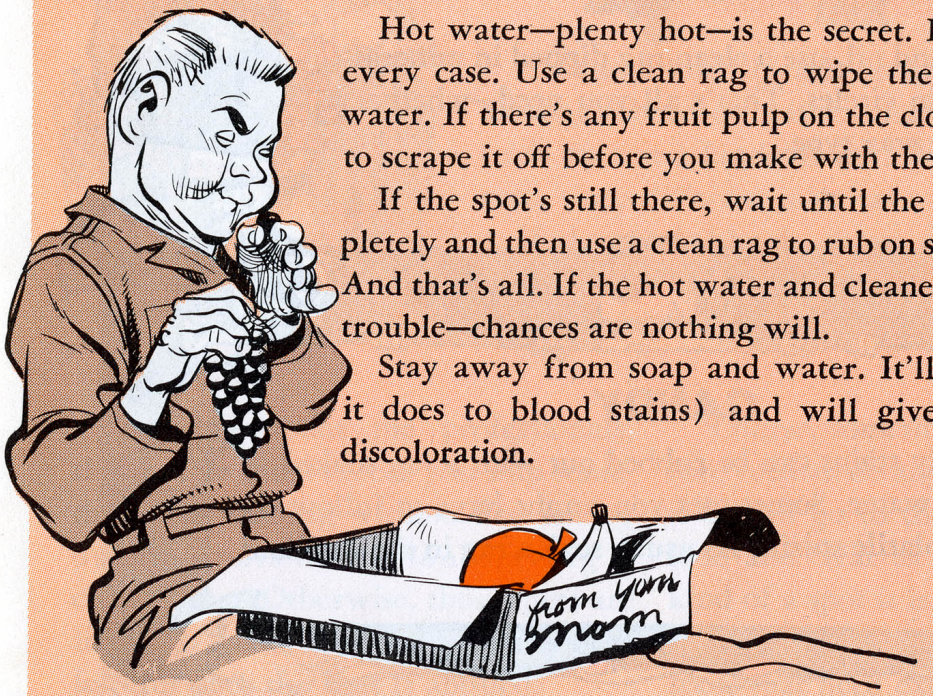


VOMIT

Dip a clean rag in cold water and start soppin'. Do this so's to get most of the stuff off. Then go over the same area with a clean rag soaked in warm, soapy water. Mild soap.

You're not quite finished. Give the area another rubbing with cold water. And, if need be, finally moisten a cloth in mineral spirits and rub easy. But try this only if the soap and water treatment flops.

FRUIT—LIQUOR—WINE

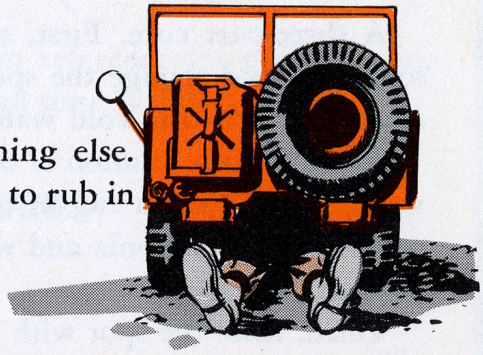


Hot water—plenty hot—is the secret. It'll work in almost every case. Use a clean rag to wipe the spot with that hot water. If there's any fruit pulp on the cloth, use a dull knife to scrape it off before you make with the rag and hot water.

If the spot's still there, wait until the material dries completely and then use a clean rag to rub on some mineral spirits. And that's all. If the hot water and cleaner don't rub out your trouble—chances are nothing will.

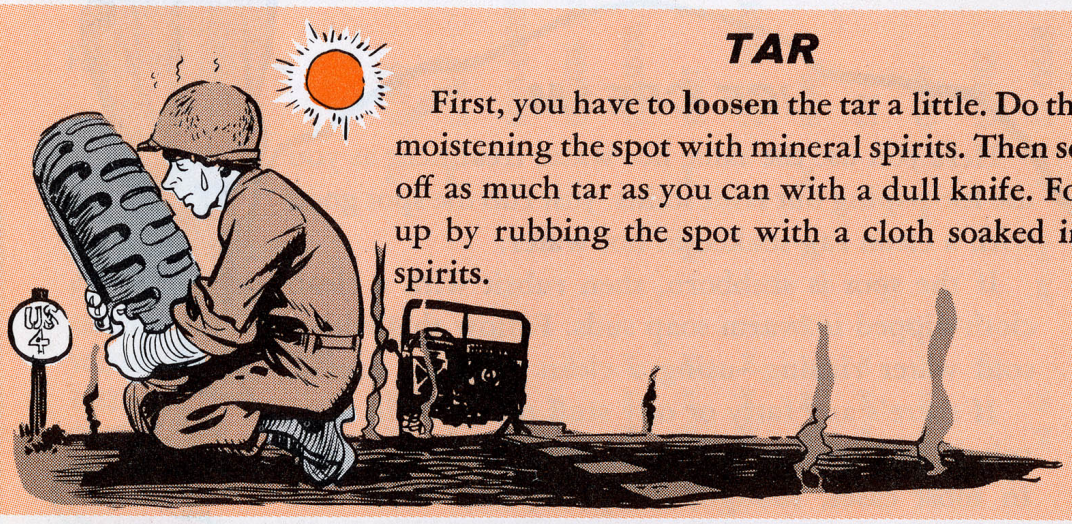
Stay away from soap and water. It'll set the stain (like it does to blood stains) and will give you a permanent discoloration.

GREASE AND OIL



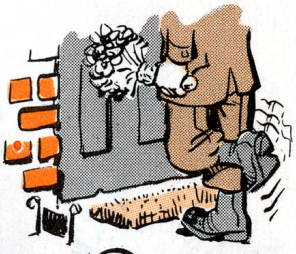
You have to use straight mineral spirits. Nothing else. Soak a clean rag in the cleaner and rub lightly. Try to rub in circles so's to keep the stain from spreading.

TAR

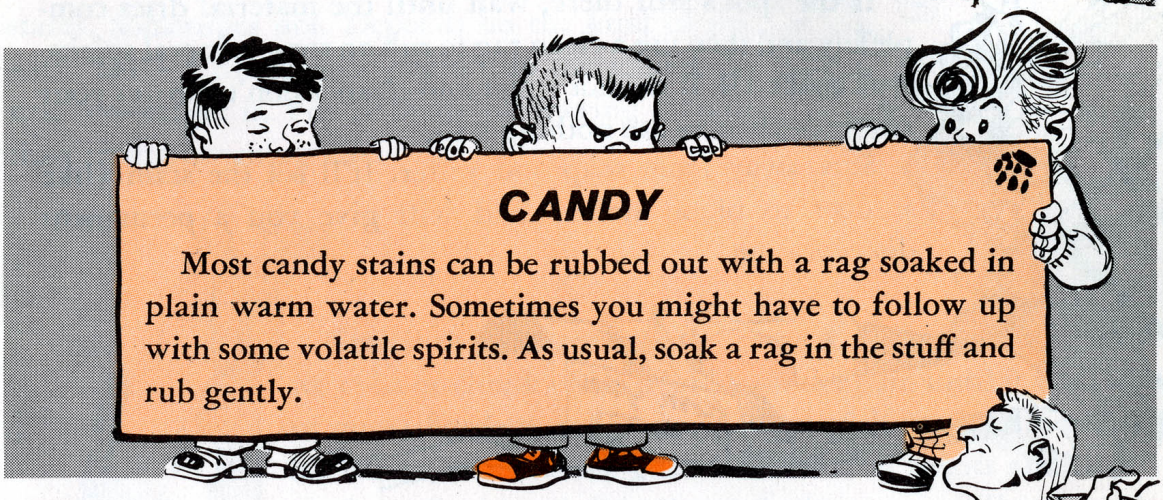


First, you have to loosen the tar a little. Do that by moistening the spot with mineral spirits. Then scrape off as much tar as you can with a dull knife. Follow up by rubbing the spot with a cloth soaked in the spirits.

SHOE POLISH



Like with grease and oil, use a clean rag dipped in mineral spirits. Rub gently in circles. That's all you need—whether the polish is paste or wax type.



CANDY

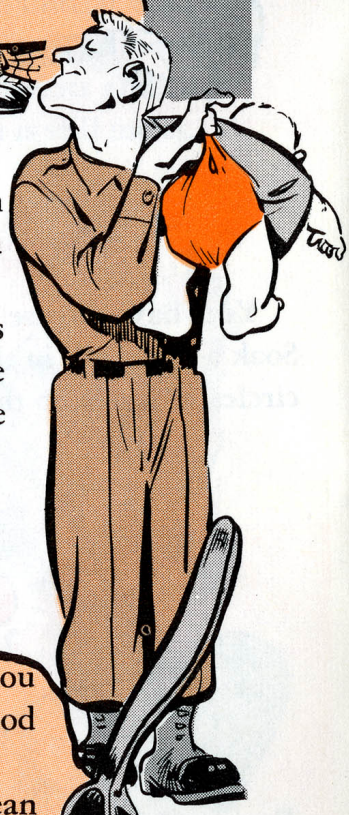
Most candy stains can be rubbed out with a rag soaked in plain warm water. Sometimes you might have to follow up with some volatile spirits. As usual, soak a rag in the stuff and rub gently.

URINE

A three-part cure. First, soak a clean rag in lukewarm soap suds and sponge the spot. Rinse it by rubbing with a clean rag dipped in cold water.

Second, mix a solution of one part ammonia and five parts water. Soak a clean rag in that solution and dab it on the stain. Let the ammonia and water solution set for about one minute. Rest up.

Third, rinse the spot with a clean, water-wet rag.



ICE CREAM

Here you use the same hot water treatment as you use for wiping out fruit stains. Just rub the spot good with a clean rag soaked in hot water.

If the spot is stubborn, then rub it with a clean cloth dipped in warm soap suds. Follow this with a cold water rinsing—using a clean cloth, of course.

If there's any fatty or oily stuff on the stain area, rub it out with a cloth wet with volatile spirits. In most cases, though, the plain, hot water cure should do.

INK

A little diluted bleach or some warm water and alcohol rubbed on with a clean cloth **might** do the trick on **some** kinds of ink. But there's no general rule, since different inks have different makeups.

If the weak bleach, water and alcohol don't do the job, best bet is to leave it to the professionals.

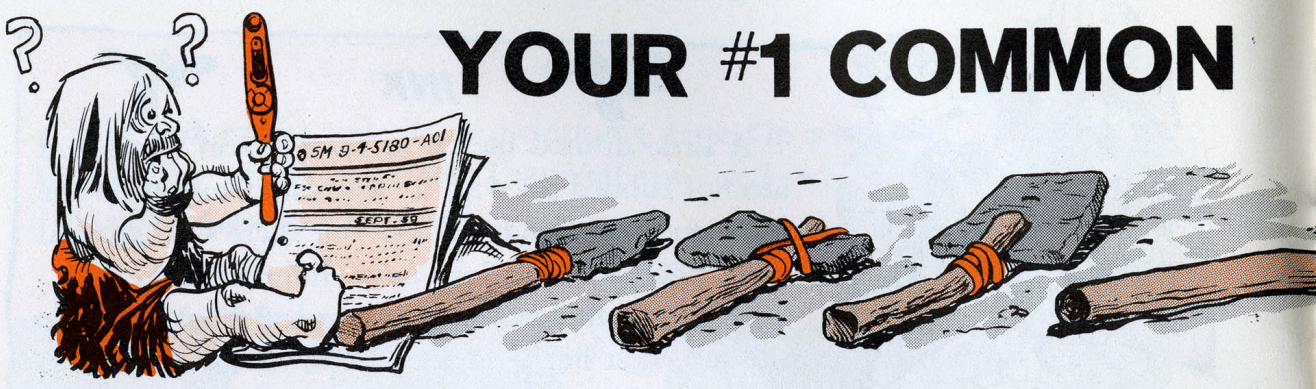
Speaking about the professionals, think three times before you ship something for pressing without first taking out the spots or without having it cleaned first. Otherwise, those spots are likely to make themselves permanent fixtures once the heat is applied.

'Course, sometimes a spot sets in before you can do anything about it. Then it **has** to go to the pros. So sound off loud and clear to the man about what kind of a spot it is. That way he'll give special treatment to the really rough spots that need extra attention.

Here's a chart that might help. It's a short-form reference for quick action. It'll come in handy when the stain is spreading and time is short . . .

SPOT FACTS FOR SPOTTY CLOTHES

For this use ➡	BLOOD	GRAVY	FRUIT-LIQUOR-WINE	CHEWING GUM	GREASE-OIL	VOMIT	SHOE POLISH	URINE	TAR	CANDY	LIPSTICK	ICE CREAM	INK	OTHER JUICES
COLD WATER	X	X				X		X				X		X
WARM WATER										X			X	
WARM WATER (SOAPY)						X		X				X		
HOT WATER			X									X		
AMMONIA AND WATER	X							X						
VOLATILE MINERAL SPIRITS		X	X	X	X	X	X		X	X	X			
RUBBING	X	X	X		X	X	X	X	X	X		X		X
CLEAN RAG	X	X	X		X	X	X	X	X	X		X		X



YOUR #1 COMMON

If you've got

TOOL KIT, AUTOMOTIVE MAINTENANCE:

Organizational (2nd Echelon) Set #1 Common FSN 5180-754-0654

Here's what you should have. (In some cases the tool you have may not look like the one in the picture. Check out your FSN before you turn it in. A difference in the manufacturer may make a difference in its looks but not the way it works.)

You should have one each of these tools unless you see the number you get.

ADAPTER, SOCKET WRENCH, male to female, ¾-in sq male end, ½-in sq female end.

FSN 5120-144-5207 — QM

ADJUSTING TOOL, VALVE TAPPET, replaceable wrench socket type, ½-in, 9/16-in, & ⅝-in size sockets.

FSN 5120-293-0595 — QM

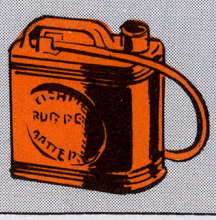
BAR, GREASE, 32-in lg.

FSN 5120-595-8151 — QM

BAR, WRECKING, ¾-in dia, 30-in lg.

FSN 5120-293-0665 — QM

BATTERY FILLER, GRAVITY, 4 qt cap flex rubber container, 8-in lg, 4⅝-in w, 8-in h, ⅜-in dia x 15-in lg hose, w/pitcher type handle.



FSN 6140-635-3824 — SIG

BATTERY FILLER, SYRINGE, 6 oz cap.

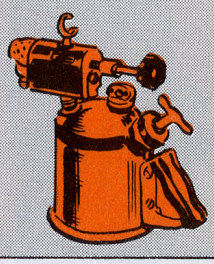
FSN 6140-643-4490 — SIG

BLADE, HAND HACKSAW, HSS, all hard, 10-in long, 24 points per in, 0.025-in thk.

12 in set

FSN 5110-237-8107 — QM

BLOWTORCH, GASOLINE, pump generating pressure type, 1 qt cap rd tank.



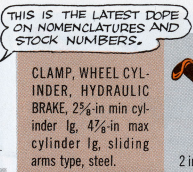
FSN 5120-222-1371 — QM

BRUSH, ACID, SWABBING, rd twisted-in-wire bristle, overall dimensions 8½-in lg, 3-in lg of brush part, ½-in dia of brush part.

6 in set

FSN 7920-223-8002 — QM

YOUR #1 COMMON TOOL KIT



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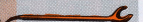
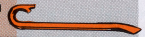


FSN 5120-595-8151 — QM

BAR, WRECKING, ¾-in dia, 30-in lg.



FSN 5120-293-0665 — QM

BATTERY FILLER, GRAVITY, 4 qt cap flex rubber container, 8-in lg, 4⅝-in w, 8-in h, ⅜-in dia x 15-in lg hose, w/pitcher type handle.

FSN 6140-635-3824 — SIG

BATTERY FILLER, SYRINGE, 6 oz cap.

FSN 6140-643-4490 — SIG

BLADE, HAND HACKSAW, HSS, all hard, 10-in long, 24 points per in, 0.025-in thk.

12 in set

FSN 5110-237-8107 — QM

BLOWTORCH, GASOLINE, pump generating pressure type, 1 qt cap rd tank.

FSN 5120-222-1371 — QM

BRUSH, ACID, SWABBING, rd twisted-in-wire bristle, overall dimensions 8½-in lg, 3-in lg of brush part, ½-in dia of brush part.

6 in set

FSN 7920-223-8002 — QM

BRUSH, PAINT, oval, hog bristle, w/chisel edge stock dia 17/16-in w, 1¼-in thk, 2⅞-in min exposed lg.

2 in set

FSN 8020-239-0959 — ENG

BRUSH, WIRE, SCRATCH, curved handle, rocker rectangular face, 1⅛-in to 1¼-in lg of brush part clear of block, 4 rows wide by 18 rows long, lg of brush part 6 to 6¼-in, overall lg 14-in.

4 in set

FSN 7920-291-5815 — QM

CABINET, STORAGE; SPARE PARTS, STEEL, type V (w/11 drawers) 32⅝-in h, 28-in w, 27-in deep.

FSN 7125-330-0130 — QM

CABLE EXTENSION, rubber covered, 2 conductor, stranded, w/female plugs at both ends

FSN 4910-474-9135 — ORD

CAPS, VISE JAW, brass face, 4-in w jaws.

Pair in set

FSN 5120-221-1506 — QM

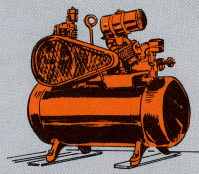
CARRIER, STORAGE BATTERY, HAND, strap type, for lg batteries.

FSN 5120-529-4124 — QM

CLAMP, WHEEL CYLINDER, HYDRAULIC BRAKE, 2⅝-in min cylinder lg, 4⅞-in max cylinder lg, sliding arms type, steel.

2 in set

FSN 4910-540-6273 — ORD



COMPRESSOR, RECIPROCATING, POWER DRIVEN, air receiver mtd, gasoline engine, 5 CFM, free air delivery, 175 PSI discharge pressure, MIL SPEC C-13874, Class A, Style 2, size 5 CFM at 175 PSI. Make and model unspecified. W/1 each gage, tire pressure, self contained, **4910-273-3662;** 1 each hose assembly, rubber, for air, 5/16-in. ID, 25 feet long.

FSN 4310-542-4565 — ENG

COUPLING HALF, QUICK DISCONNECT, air hose coupling quick acting male shank for Schrader 8050 and 8052-12 one end, ¼-in plain hose shank other end.

3 in set

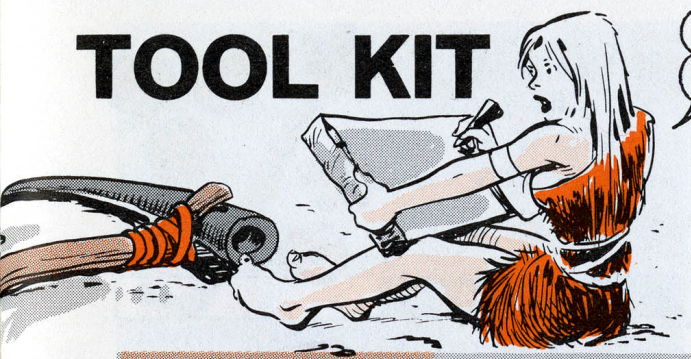
FSN 4730-142-1959 — ENG

COUPLING HALF, QUICK DISCONNECT, S stght body, fluid connection end, thd female ¼-in nom pipe size, ¼-18 NPT male.

3 in set

FSN 4730-142-1960 — ENG

TOOL KIT



BRUSH, PAINT, oval, hog bristle, w/chisel edge stock dia 1 7/16-in w, 1 1/16-in thk, 2 7/8-in min exposed lg.

2 in set

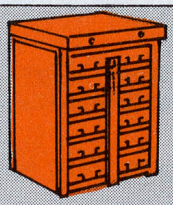
FSN 8020-239-0959 **ENG**

BRUSH, WIRE, SCRATCH, curved handle, rocker rectangular face, 1 1/8-in to 1 1/4-in lg of brush part clear of block, 4 rows wide by 18 rows long, lg of brush part 6 to 6 1/4-in, overall lg 14-in.

4 in set

FSN 7920-291-5815 **QM**

CABINET, STORAGE; SPARE PARTS, STEEL, type V (w/11 drawers) 32 5/8-in h, 28-in w, 27-in deep.



FSN 7125-330-0130 **QM**

CABLE EXTENSION, rubber covered, 2 conductor, stranded, w/female plugs at both ends

FSN 4910-474-9135 **ORD**

CAPS, VISE JAW, brass face, 4-in w jaws.

Pair in set

FSN 5120-221-1506 **QM**

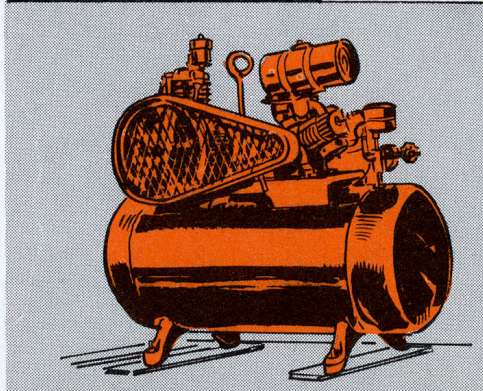
CARRIER, STORAGE BATTERY, HAND, strap type, for lg batteries.

FSN 5120-529-4124 **QM**

CLAMP, WHEEL CYLINDER, HYDRAULIC BRAKE, 2 5/8-in min cylinder lg, 4 7/8-in max cylinder lg, sliding arms type, steel.

2 in set

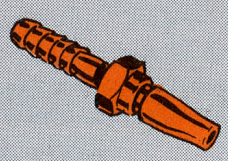
FSN 4910-540-6273 **ORD**



COMPRESSOR, RECIPROCATING, POWER DRIVEN, air receiver mtd, gasoline engine, 5 CFM, free air delivery, 175 PSI discharge pressure, MIL SPEC C-13874, Class A, Style 2, size 5 CFM at 175 PSI. Make and model unspecified. W/1 each gage, tire pressure, self contained, **4910-273-3662;** 1 each hose assembly, rubber, for air, 5/16-in. ID, 25 feet long.

FSN 4310-542-4565 **ENG**

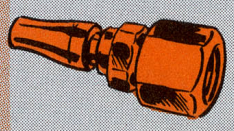
COUPLING HALF, QUICK DISCONNECT, air hose coupling quick acting male shank for Schrader 8050 and 8052-12 one end, 1/4-in plain hose shank other end.



3 in set

FSN 4730-142-1959 **ENG**

COUPLING HALF, QUICK DISCONNECT, S stght body, fluid connection end, thd female 1/4-in nom pipe size, 1/4-18 NPT male.



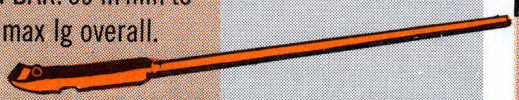
3 in set

FSN 4730-142-1960 **ENG**

CRIMPING TOOL, TERMINAL, (for crimping solderless terminals on electrical wiring).

FSN 5120-449-8037 QM

CROW BAR: 59-in min to 62-in max lg overall.

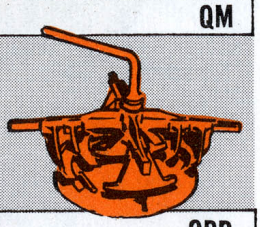


FSN 5120-224-1390 QM

CUTTER, TUBE, inclosed feed mechanism type, ⅛-in to 1-in tube od cutting range, w/deburring tool and w/2 extra cutting wheels.

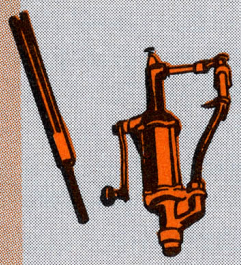
FSN 5110-204-1888 QM

DEMOUNTER, TIRE, manually operated, tire cap. 9:00 X 16 thru 14:00 X 24.



FSN 4910-683-9362 ORD

DISPENSING PUMP, HAND DRIVEN, piston type, flanged type pump head body designed for 1½-in and 2-in bung opngs, ½-in threaded nozzle type discharge fitting, adj intake.

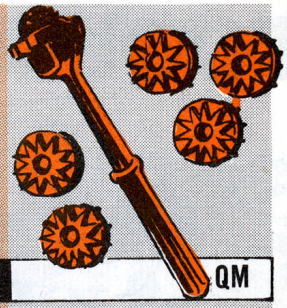


FSN 4930-287-8293 QM

DISPENSING PUMP, HAND DRIVEN, rotary type, continuous flow type, flange type pump head body designed for 1½-in and 2-in bung opngs, hose and nozzle type discharge fittings, ¾-in hose 8 ft lg, nonadjustable intake pipe 42-in lg.

FSN 4930-263-9886 QM

DRESSER, ABRASIVE WHEEL, HAND: revolving cutter wheel type, 1¼-in dia cutter 5 extra sets of cutter wheels.



FSN 5120-293-1494 QM

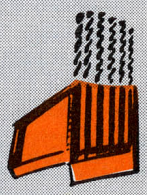
DRESSER, CONTACT POINT, non-conducting. 12 in set

FSN 5345-250-1345 QM

DRILL, BREAST, HAND, 0 to ½-in cap range, two speeds, w/side handles and spirit level.

FSN 5110-293-2524 QM

DRILL SET, TWIST, high speed steel, straight shank, fractional sizes, short series, 1/16 to ½-in x 1/64-in, 29 drills in case.

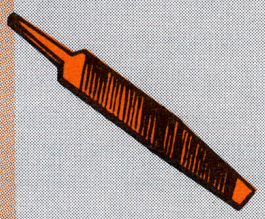


FSN 5133-293-0983 ORD

EXTRACTOR SET, SCREW. Spiral tapd, no 1, 2, 3, 4, 5, 6, 7, 8 and 9.

FSN 5120-610-1888 QM

FILE, HAND, American pattern, flat type, 12-in lg heel to point double cut, bastard face, single-cut, bastard edges.

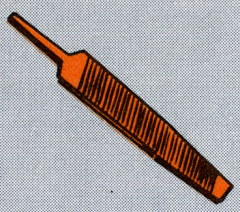


FSN 5110-234-6539 QM

FILE, HAND, American pattern, half-rd, double cut, bastard cut, 10-in heel to point.

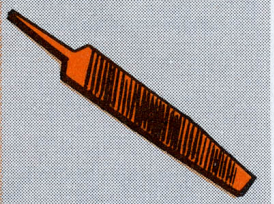
FSN 5110-241-9153

FILE, HAND, American pattern, half-rd, 8-in lg heel to point, double cut, smooth faces or double cut, smooth face, single cut, smooth face.



FSN 5110-241-9152 QM

FILE, HAND, American pattern, mill type, 12-in heel to point, single cut, smooth faces and edges.



FSN 5110-203-4645 QM

FILE, HAND, American pattern, rd, double cu, bastard face, 12-in heel to point.

FSN 5110-234-6557 QM

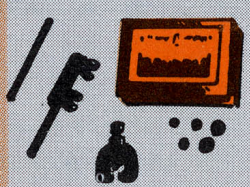
FILE, HAND, American pattern, three-sq type, double cut, second cut faces, 8-in lg, heel to point.

FSN 5110-239-7556 QM

FILE, THREAD RESTORER, 11, 12, 13, 14, 16, 18, 20, and 24 threads per in.

FSN 5110-373-1691 QM

FLARING TOOL, TUBE, HAND, swivel cone, hinged dies type, designed for 3/16-in, 1/4-in, 5/16-in, 3/8-in, 1/2-in size tubing, 90 deg incl angle of flare produced, w/adapter for double flaring.

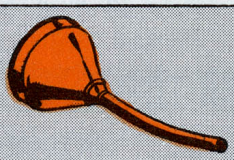


FSN 5120-240-5479 QM

FRAME, HAND HACKSAW, adjustable, pistol grip handle, 8 to 12-inch capacity.

FSN 5110-223-4971 QM

FUNNEL, steel, glvd fin, 1 qt cap, w/removable strainer, w/flex tu spout, 8-in lg.

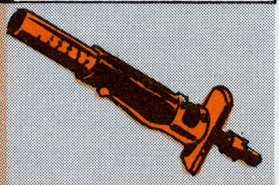


FSN 7240-559-7364 QM

FUNNEL, steel, glvd, straight spout, w/o strainer, 2 7/16-in rigid spout, 2 qt cap.

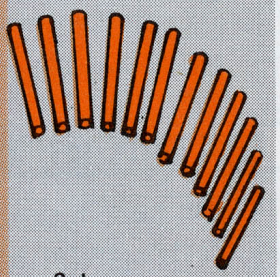
FSN 7240-230-2397 QM

GAGE, DEPTH, TIRE TREAD, 1/32-in spiral grad, 1-in max depth, 3-in tread contact plate.



FSN 5210-713-9837 ORD

GAGE, STOCK SET, THICKNESS, 11 blades, 12-in lg, 1/2-in w, 0.0015-in, 0.002-in, 0.003-in, 0.004-in, 0.005-in, 0.006-in, 0.007-in, 0.008-in, 0.010-in, 0.012-in, 0.015-in thicknesses.



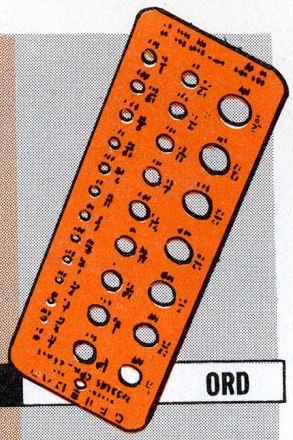
Set

FSN 5210-267-3095 ORD

GAGE, TIRE PRESSURE, SELF-CONTAINED, for general testing air inflated tires, calibrated 10 to 160 lb range, 1 lb smallest grad div, 30 deg mtg angle dual foot-type w/deflator and extension 6-in lg.

FSN 4910-244-4556 ORD

GAGE, TWIST DRILL, fractional size series type, 1/16-in to 1/2-in by 64th-in, overall dim 6 1/4-in lg, 2 3/8-in w, 1/16-in thk, decimal equivalents of hole, sized stamped on front side.



FSN 5210-273-9865 — ORD

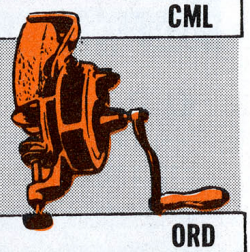
GAGE, WHEEL ALIGNMENT, toe-in type, telescoping rod style, 2-0-2 by 16ths of an in grad scale on one end, nickel finish, w/height meas chain.

FSN 5210-473-7106 — ORD

GOGGLES, INDUSTRIAL, over-spectacle type, plastic frames, opaque, ventilated, clear plastic lenses not polarized.

FSN 4240-288-9123 — CML

GRINDING MACHINE, BENCH, HAND OPERATED, heavy duty, 6 by 1 1/4-in wheel.



FSN 3415-241-3116 — ORD

GUN, AIR BLOW, straight design, finger grip handle, button operated, w/hang-up hook, 5 cfm cap at 50 psi, removable tip, male threaded coupling, 1/4-18 AS straight pipe thread.

FSN 4940-241-3075 — ORD

HAMMER, HAND, blacksmith's cross peen, 3 lb nom head.

FSN 5120-242-3915 — QM

HAMMER, HAND, carpenter's nailing, curved claw, plain neck, 1 lb.

FSN 5120-223-9124 — QM

HAMMER, HAND, sledge, blacksmith's, cross peen, 12 lb nom head wt.

FSN 5120-224-4130 — QM

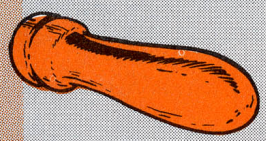
HANDLE, FILE, WOOD, medium size, 1 1/4-in dia of hand grip. 6 in set

FSN 5110-263-0349 — QM

HANDLE, SOCKET WRENCH, hinged 1/2-in sq drive 12 15/16-in nom lg over-all.

FSN 5120-221-7958 — QM

HANDLE, SOLDERING IRON, WOOD, 6 1/2-in approx over-all lg, 1 1/2-in max dia. 4 in set



FSN 3439-263-0346 — ORD

HOLDING TOOL, VALVE, TIRE REPAIR.

FSN 5120-223-9346 — QM

HOSE ASSEMBLY, RUBBER, braided, 1/4-in ID, 25 ft lg, w/non-ferrous female swivel fittings w/1/4-in NPS for taper seat nipple conns.

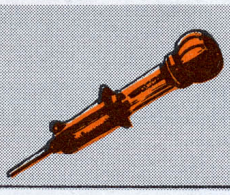
3 in set

FSN 4720-356-8557 — ENG

HYDROMETER, SYRINGE, ANTIFREEZE, for multisolution testing (for ethyl alcohol and ethyleneglycol) two-float. 2 in set

FSN 6630-449-6609 — CML

HYDROMETER, SYRINGE, BATTERY, w/2 identical floats, in carrying case. 2 in set

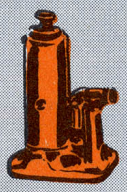


FSN 6630-335-0367 — CML

INFLATER GAGE PNEUMATIC TIRE, tire pressure, bayonet type, calibrated in 2½ lb steps or less to a min of 40 lbs, and in 5 lb steps or less to min of 120 lbs.

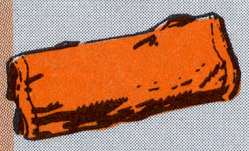
FSN 4910-204-2547 — ORD

JACK, HYDRAULIC, HAND, self contained, 12 ton rated cap 11¼-in closed h, 16¼-in extended h, single punch, w/screw extension.



FSN 5120-224-7330 — QM

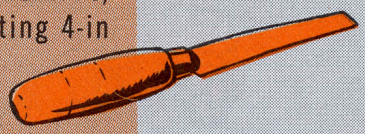
KEY SET, SOCKET HEAD SCREW, hex drive end, L-type, 0.050-in to 9/16-in across flats, 13 wrenches in set, w/roll.



FSN 5120-204-0972 — QM

FSN 5120-198-5401	0.050-in
FSN 5120-198-5398	1/16-in
FSN 5120-224-2504	5/64-in
FSN 5120-242-7410	3/32-in
FSN 5120-240-5292	1/8-in
FSN 5120-198-5392	5/32-in
FSN 5120-240-5300	3/16-in
FSN 5120-242-7411	7/32-in
FSN 5120-224-4659	1/4-in
FSN 5120-240-5274	5/16-in
FSN 5120-198-5390	3/8-in
FSN 5120-198-5391	1/2-in
FSN 5120-240-5268	9/16-in

KNIFE, CRAFTSMAN'S, rubber cutting 4-in taper point.



FSN 5110-268-3882 — QM

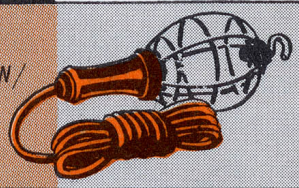
LANTERN, electric, hand, 6 volt, w/bulb.

FSN 6230-498-9408 — ENG

LIFTER-SCRAPER, BATTERY TERMINAL, 10½ nom lg.

FSN 5120-293-1039 — QM

LIGHT, EXTENSION, w/cable. 2 in set

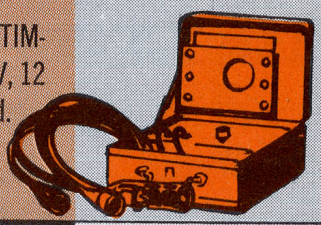


FSN 6230-268-9436 — ENG

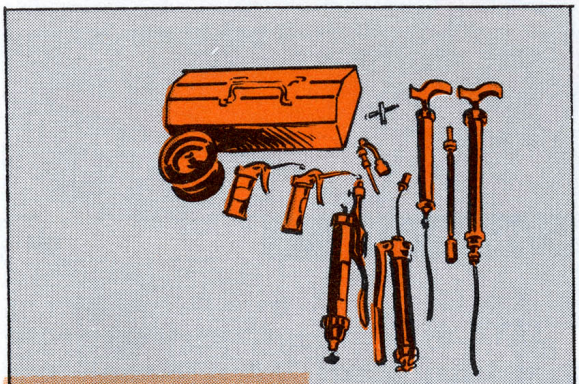
LIGHT, EXTENSION, 1 lamp accommodated med screw base; w/cable.

FSN 6230-239-3518 — ENG

LIGHT, IGNITION TIMING, 3 lead type, 6 V, 12 V, or 24 V btry reqd.



FSN 6625-500-2135 — ORD



LUBRICATING KIT

FSN 4930-357-6301 Consisting of: **QM**

FSN 4930-223-3390	Gun
FSN 4930-223-3391	Gun (2 in set)
FSN 4930-223-3392	Gun
FSN 4930-274-5713	Oiler (2 in set)
FSN 4930-387-9491	Coupling
FSN 4930-387-9551	Adapter
FSN 4930-387-9570	Extension
FSN 4930-704-1852	Lubricator
FSN 5120-246-2311	Tool
FSN 5140-357-5483	Box
FSN 5340-205-5517	Padlock
FSN 4730-050-4208	Fitting (100 in set)
FSN 4730-278-4216	Elbow (25 in set)
FSN 4730-278-4814	Elbow (25 in set)

LUBRICATING UNIT, POWER OPERATED, 25 to 50 lb cap., air operated, 100-lb. recommended air pressure.

FSN 4930-704-3917 **QM**

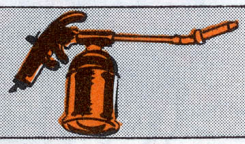
MEASURE, LIQUID, 2 qt cap, w/flex dispensing spout 2 in set

FSN 7240-255-8113 **QM**

MEASURE, LIQUID, 8 qt cap.

FSN 7240-255-5996 **QM**

OIL GUN, PNEUMATIC, curved rigid neck, 32 oz cap.



FSN 4930-222-2975 **QM**

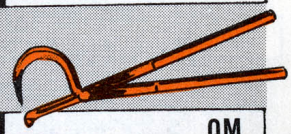
PADLOCK, pintumbler mechanism.

FSN 5340-205-5517 **ENG**

PLIERS, angle nose, btry term, w/o cutter, 7-in.

FSN 5120-248-9407 **QM**

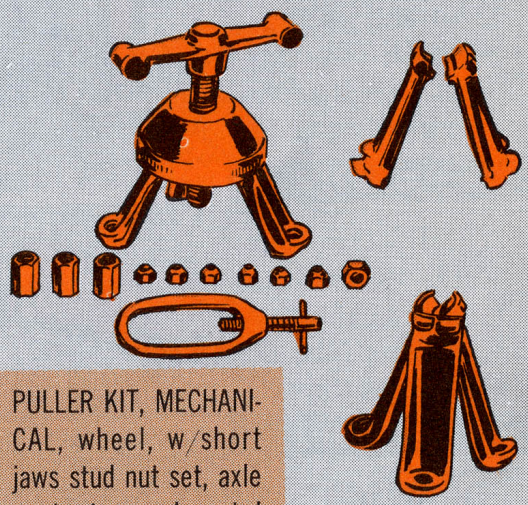
PLIERS, BRAKE REPAIR, removing & replacing.



FSN 5120-528-2265 **QM**

PLIERS, RETAINING RING, snap ring, formed tips.

FSN 5120-595-9551 **QM**

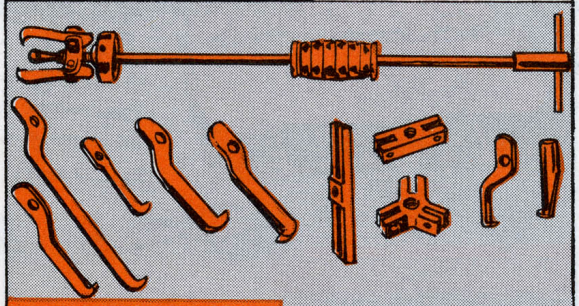


PULLER KIT, MECHANICAL, wheel, w/short jaws stud nut set, axle protector and metal box.

FSN 5120-587-4151 **QM**

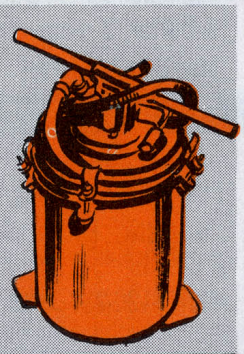
PULLER KIT, MECHANICAL, universal, slide hammer type, reversible, 2 & 3 jaw, 0 to 8¾-in outside range, 1 to 6¾-in inside range.

FSN 5120-313-9496 — Consisting of: — QM



FSN 5120-313-9502	Crossarm
FSN 5120-313-9504	Jaw (3 in set)
FSN 5120-313-9505	Jaw (3 in set)
FSN 5120-313-9506	Jaw (3 in set)
FSN 5120-313-9507	Jaw (3 in set)
FSN 5120-313-9508	Jaw (3 in set)
FSN 5120-340-2010	Jaw (3 in set)
FSN 5120-357-6278	Jaw (3 in set)
FSN 5120-357-9499	Nut
FSN 5120-313-9501	Pin (3 in set)
FSN 5120-313-9497	Rod
FSN 5120-313-9498	Sliding Hammer
FSN 5120-313-9500	Yoke
FSN 5120-357-9244	Yoke

PUMP, BUCKET, LUBRICATING, hand operated 25 to 50 lbs rated cap, 7000 psi pressure, ⅕ ounce per stroke, w/ hose 10 ft lg, hydraulic type coupler, w/leakproof cover and follower plate.

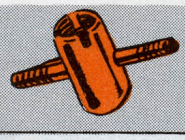


FSN 4930-244-4859 — QM

PUMP, BUCKET, LUBRICATING, hand operated 25 to 50 lbs rated cap, 1500 psi pressure, w/ hose 5 ft lg, goose neck type nozzle, w/leakproof cover and loader fitting for grease gun.

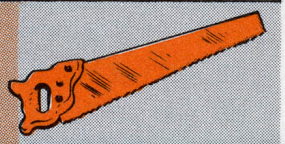
FSN 4930-244-4860 — QM

REPAIR TOOL, PNEUMATIC TIRE VALVE, designed for std tire valve.



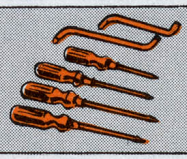
FSN 5120-308-3809 — QM

SAW, HAND, CROSSCUT, skew hack, 10 points per in, 24-in lg.



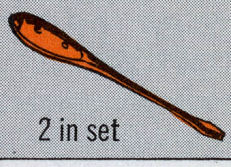
FSN 5110-596-0966 — QM

SCREWDRIVER SET, CROSS TIP, STRAIGHT AND OFFSET.



FSN 5120-580-0334 — QM

SCREWDRIVER, FLAT TIP, metal w/wood inserts handle, 7/16-in w/ flared tip, 10-in lg blade.

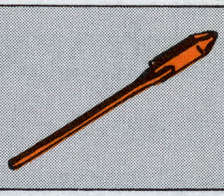


FSN 5120-236-2092 — QM

SHEARS, BENT TRIMMERS, 12-in lg overall w/2 sharp pointed ends.

FSN 5110-244-6511 — QM

SOLDERING IRON, NONELECTRIC, pyramid point type, 2 lb wt per pr, w/o handle. 2 in set



FSN 3439-224-7510 — ORD

SOLDERING IRON, NONELECTRIC, pyramid point type, 1 lb wt per pr, w/o handle. 2 in set

FSN 3439-222-1560 — ORD

STENCIL SET, MARKING, mtl, adj type, 45 stencils, 1-in size.

FSN 7520-272-9679 — QM

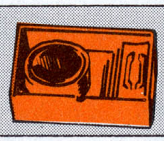
STENCIL SET, MARKING, mtl, adj type, 45 stencils, 2-in size.

FSN 7520-272-9681 — QM

STENCIL SET, MARKING, mtl, adj type, 45 stencils, 3-in size.

FSN 7520-272-9682 — QM

STENCIL SET, MARKING, mtl, adj type, 45 stencils, 4-in size.

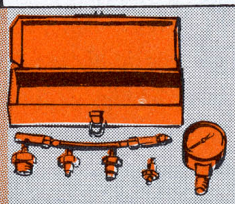


FSN 7520-269-8112 — QM

STONE, SHARPENING, comb, unmtd, artificial, coarse and fine grit, 8-in lg, 2-in w, 1-in thk.

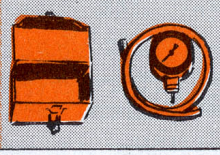
FSN 5345-260-0759 — ORD

TESTER, CYLINDER COMPRESSION, 0 to 200 psi range w/ valve assy, adapter set, & carrying case.



FSN 4910-250-2423 — ORD

TESTER, INTERNAL COMBUSTION, carburetor adjusting and fuel pump testing. 2 in set



FSN 4910-255-8673 — ORD

TIRE IRON, 18-in lg.

FSN 5120-422-8558 — QM

TIRE IRON, curved flat type, 24-in nom lg.

2 in set

FSN 5120-277-4071 — QM

TIRE, IRON, hvy duty, 33 in lg.

FSN 5120-357-6248 — QM

TIRE IRON, non-pinching, dbl-end, 18-in lg.

2 in set

FSN 5120-449-7073 — QM

TIRE PROBING TOOL.

FSN 5120-449-8047 — QM

TIRE VALVE STEM FISHING TOOL.

FSN 5120-423-2346 — QM

TOOL KIT, AUTOMOTIVE ELECTRICAL, w/roll.

FSN 5180-422-8594 — Consisting of: ORD

Pliers, slip joint

FSN 5120-222-2233 — QM

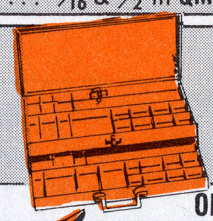
Screwdriver, flat tip

FSN 5120-236-2140 — QM

Wrench, open end fixed

FSN 5120-277-3414	13/64 & 15/64-in	QM
FSN 5120-277-8308	7/32 & 1/4-in	QM
FSN 5120-277-8309	7/32 & 1/4-in	QM
FSN 5120-277-8310	15/64 & 13/64-in	QM
FSN 5120-277-8311	9/32 & 5/16-in	QM
FSN 5120-277-8312	5/16 & 9/32-in	QM
FSN 5120-277-8313	11/32 & 3/8-in	QM
FSN 5120-277-8314	3/8 & 11/32-in	QM
FSN 5120-293-1349	7/16 & 1/2-in	QM

TOOL, KIT, ELECTRICAL CONNECTOR, (1 stripper & cutter, 3 removers, 1 pliers in mtl case).



FSN 5180-708-3423 — ORD

STRIPPER

FSN 5120-322-6028 — QM

CRIMPING TOOL (PLIERS)

FSN 5120-251-3990 — QM

FSN 5120-797-8495 — QM (0.063-in)

FSN 5120-797-8494 — QM (0.120-in)

FSN 5120-391-1710 — QM (0.187-in)

TUBE, BLEEDER, HYDRAULIC BRAKE, 18-in tube w/2 connections.

2 in set

FSN 4910-255-8219 — ORD

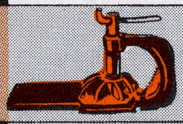
UNIVERSAL JOINT, SOCKET WRENCH, ¾-in sq end.

FSN 5120-243-1687 QM

VISE, MACHINIST'S, swivel base, stationary jaw 4-in jaw w, 6-in jaw opng, jaw faces replaceable.

FSN 5120-293-1439 QM

VULCANIZER, HOT PATCH, bench mtg.



FSN 4910-243-3130 ORD

WRENCH, AUTO ADJUSTABLE, 0 to 3⅝-in jaw opng, 15-in lg. 2 in set

FSN 5120-264-3793 QM

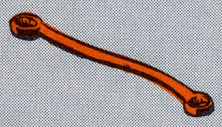
WRENCH, BOX, double offset double head type, 45 deg offset, 12 pt, 1¼-in & 1⁵⁄₁₆-in wrench opngs, 17⅜ in nom lg over-all.

FSN 5120-264-5212 QM

WRENCH, BOX, angular offset double head type, 12 point, 1¼ and 1⅜-in opngs; 18-in nom over-all lg.

FSN 5120-184-8677 QM

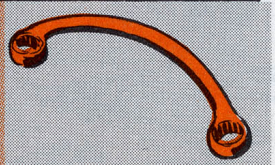
WRENCH, BOX, angular offset double head type, 12 point 1⅛ and 1⅛-in wrench opng, 15-in nom over-all.



2 in set

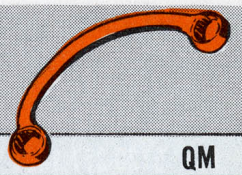
FSN 5120-228-9521 QM

WRENCH, BOX, double head, 12 pt, close sweep half-moon type, ⅞ and ¾-in opngs.



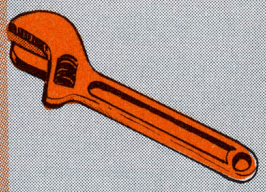
FSN 5120-288-9080 QM

WRENCH, BOX, double head, 12 pt, half-moon, ⁹⁄₁₆ and ⅝-in opngs.



FSN 5120-313-9495 QM

WRENCH, OPEN END, ADJUSTABLE, single head, 10-in nom lg over-all 0 to 1.135 in min jaw opng cap. 2 in set

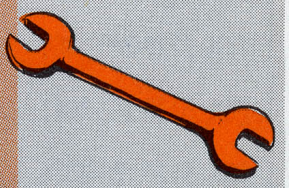


FSN 5120-449-8083 QM

WRENCH, OPEN END, ADJUSTABLE, single head, 0 to 1⁵⁄₁₆-in jaw opng, 12-in lg. 2 in set

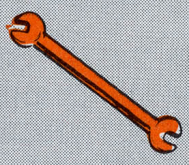
FSN 5120-264-3796 QM

WRENCH, OPEN END, FIXED, double head ⁴¹⁄₆₄-in thk, 15 deg angle, 1⁷⁄₁₆ and 1⅝-in opngs, 17-in lg over-all.



FSN 5120-277-2326 QM

WRENCH, OPEN END, FIXED, double head type, ⁷⁄₁₆-in and ½-in wrench opng size, 15 deg angle of head, 7-in nom over-all lg, ³⁄₁₆-in thk head. 2 in set



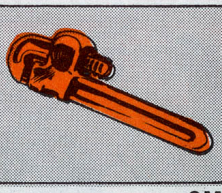
FSN 5120-184-8620 QM

WRENCH, OPEN END, FIXED, double head type, ⁹⁄₁₆ and ⅝-in opngs, 15 deg angle of head, 7¾-in nom over-all lg, ³⁄₁₆-in thk of head.

2 in set

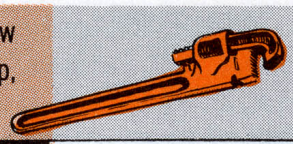
FSN 5120-184-8621 QM

WRENCH, PIPE, adj jaw, stillson ptrn style, 10-in nom lg over-all, ¼ to 1-in ips. 2 in set



FSN 5120-277-1485 QM

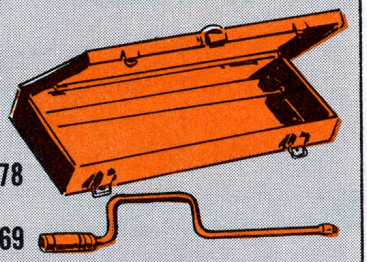
WRENCH, PIPE, adj jaw style, 1 to 2-in pip cap, 18-in lg.



FSN 5120-277-1461 **QM**

WRENCH SET, SOCKET, 3/8-in sq drive, 12 point w/handles, crowfoot wrenches, drag link bit, and universal joint, 1/2 and 9/16-in crowfoot, 5/16 to 3/4-in 12 point opngs 19 pcs in box. 2 sets

FSN 5120-449-8200 **QM**



FSN 5140-357-5478

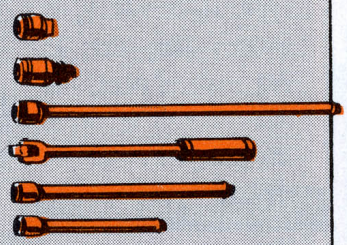
FSN 5120-237-4969

FSN 5120-240-5364

FSN 5120-241-3143

FSN 5120-184-8384
(1/2-in wrench opng)

FSN 5120-184-8397
(9/16-in open end)



FSN 5120-243-7332
FSN 5120-224-9215
FSN 5120-273-9205
FSN 5120-240-5396
FSN 5120-243-1693
FSN 5120-227-8107

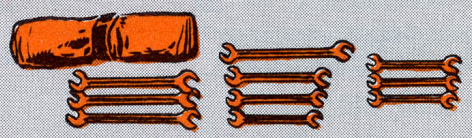
SOCKET, SOCKET WRENCH, 3/8-in sq-drive, 12 pt

	Opening
FSN 5120-232-5711	5/16-in
FSN 5120-227-6702	3/8-in
FSN 5120-227-6703	7/16-in
FSN 5120-237-0977	1/2-in
FSN 5120-227-6704	9/16-in
FSN 5120-237-4973	5/8-in
FSN 5120-232-5706	11/16-in
FSN 5120-227-6705	3/4-in

WRENCH SET, OPEN END FIXED, engr's dble open end, 15 deg angle, alloy-S, 3/8 to 1 1/8-in opngs, 10 wrenches in roll. 2 sets

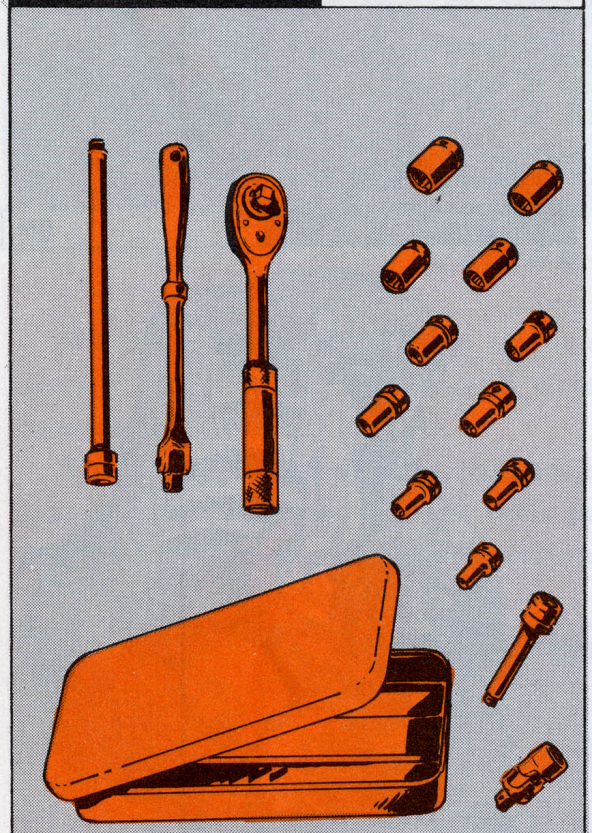
FSN 5120-317-8068 **QM**

	Openings	Length Over-all	Thickness
FSN 5120-277-2342	3/8 & 7/16	4 1/8	7/32
FSN 5120-187-7123	7/16 & 1/2	5	1/4
FSN 5120-187-7124	1/2 & 9/16	5 1/2	17/64
FSN 5120-187-7126	9/16 & 5/8	6	19/64
FSN 5120-277-8301	5/8 & 11/16	7	21/64
FSN 5120-224-3102	5/8 & 3/4	7	11/32
FSN 5120-240-5609	3/4 & 7/8	8 3/8	3/8
FSN 5120-187-7131	7/8 & 15/16	10	13/32
FSN 5120-277-2693	15/16 & 1 1/16	10 1/2	7/16
FSN 5120-187-7133	1 & 1 1/8	11 1/2	1/2



WRENCH SET, SOCKET, 1/4-in sq drive, 6 & 8 point w/handles, 3/16 to 7/16-in 6 point, 1/4 to 3/8-in 8 point opngs, 16 pieces in box.

FSN 5120-203-9573 **QM**

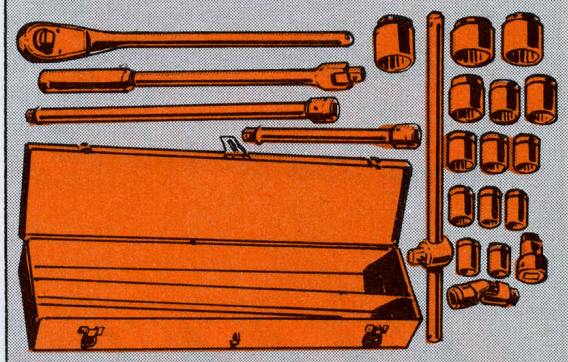


	Openings, Inches	Socket Shape
FSN 5120-236-2262	3/16	hex
FSN 5120-236-2263	7/32	hex
FSN 5120-236-2264	1/4	hex
FSN 5120-189-7906	1/4	8 pt
FSN 5120-242-3345	9/32	hex
FSN 5120-232-5703	5/16	hex
FSN 5120-189-7907	5/16	8 pt
FSN 5120-232-5704	11/32	hex
FSN 5120-241-3186	3/8	hex
FSN 5120-189-7908	3/8	8 pt
FSN 5120-239-0016	7/16	hex

	Handle and/or Attachment	Nom. Lgth
FSN 5120-227-8105	. Extension	2
FSN 5120-243-7325	. Extension	6
FSN 5120-221-7957	. Handle	4 1/4
FSN 5120-221-7960	. Handle	5 7/16
FSN 5120-243-1686	. Universal Joint	1 5/16

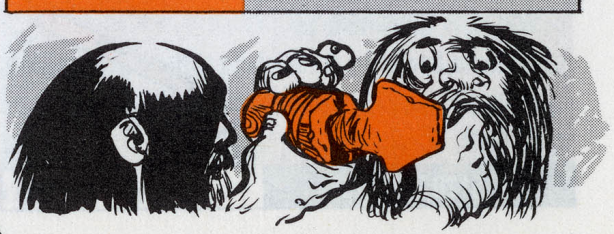
WRENCH SET, SOCKET, 3/4-in sq drive, 12 point, 7/8-in to 2-in opng, w/3 handles, 21 pieces in box.

FSN 5120-204-1999 **QM**



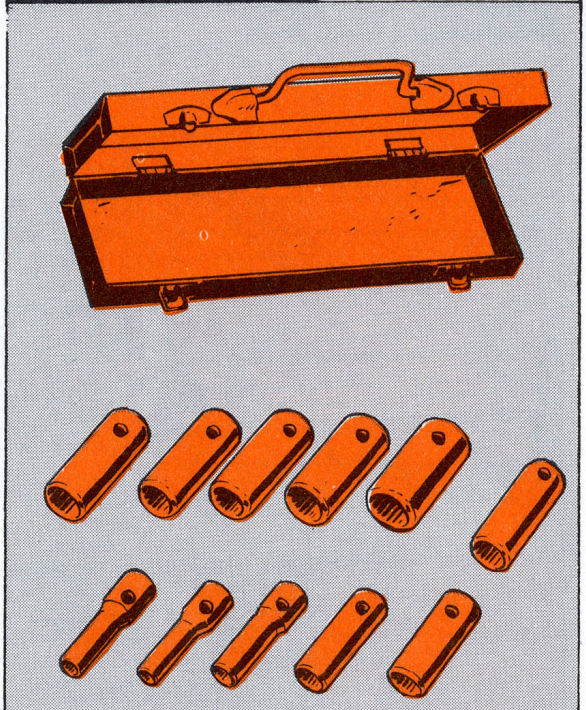
	Openings, Inches
FSN 5120-181-6816	7/8
FSN 5120-181-6813	15/16
FSN 5120-237-0989	1
FSN 5120-189-7928	1 1/16
FSN 5120-239-0021	1 1/8
FSN 5120-235-5871	1 1/4
FSN 5120-232-5681	1 5/16
FSN 5120-189-7931	1 7/16
FSN 5120-293-0094	1 1/2
FSN 5120-189-7910	1 9/16
FSN 5120-199-7765	1 5/8
FSN 5120-199-7768	1 13/16
FSN 5120-199-7769	1 7/8
FSN 5120-199-7770	2

	Handle and/or Attachment	Length, Inches
FSN 5120-273-9208	. Extension	3
FSN 5120-243-7328	. Extension	8
FSN 5120-227-8079	. Extension	16
FSN 5120-249-1076	. Handle	18
FSN 5120-240-5368	. Handle	18 1/2
FSN 5120-221-7959	. Handle	20 3/8
FSN 5120-243-1687	. Universal Joint	4 3/16



WRENCH SET, SOCKET, ½-in sq dr, 12 pt, deep style, ½ to 1⅛-in opngs, 11 sockets in box.

FSN 5120-596-8622 QM



	Openings, Inches
FSN 5120-243-7351	½
FSN 5120-243-7348	9/16
FSN 5120-235-5898	5/8
FSN 5120-243-7346	11/16
FSN 5120-242-3349	¾
FSN 5120-243-7345	13/16
FSN 5120-243-7342	⅞
FSN 5120-243-7343	15/16
FSN 5120-243-7340	1
FSN 5120-243-7341	1 1/16
FSN 5120-243-7339	1⅛

WRENCH, SPANNER, adjustable hook, ¾ to 2-in circle dia, 11/32-in thk of hook.

FSN 5120-288-6468 QM

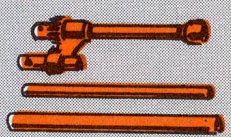
WRENCH, TORQUE, deflecting frame L-handled style, plate indicating torque mech, w/visual indicating mech, ¾-in sq male dr, 0 to 300 ft lb rated cap.

FSN 5120-221-7983 QM

WRENCH, TORQUE, rigid frame, L-handle, w/ratch adapter, dial indicating mechanism, w/visual indicating mech, ½-in sq dr male, 175 ft-lb rated cap.

FSN 5120-640-6364 QM

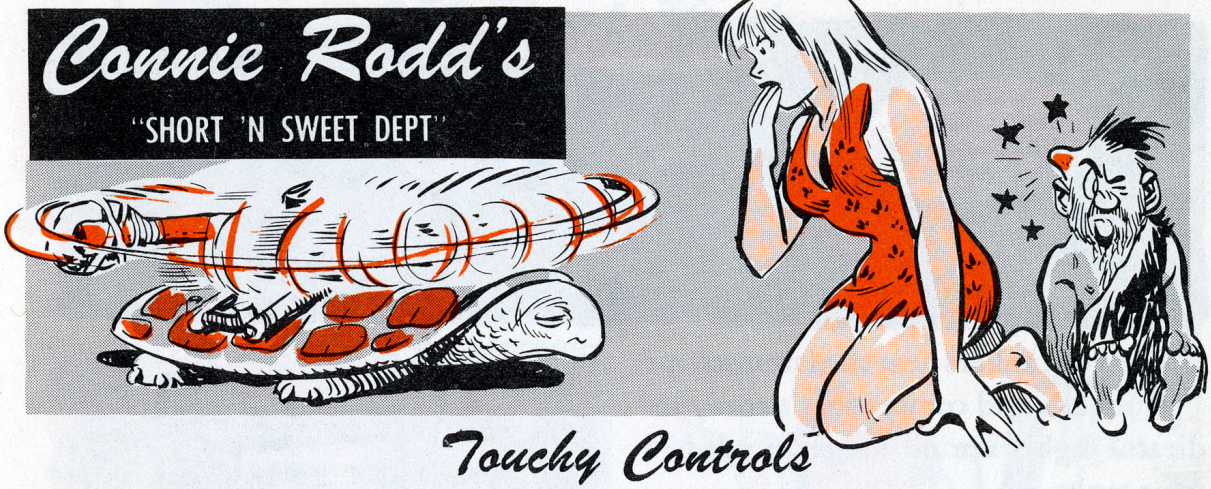
WRENCH, wheel, stud, nut, geared socket, w/36-in tubular handle & 20-in bar handle.



FSN 5180-378-4411 QM

Connie Rodd's

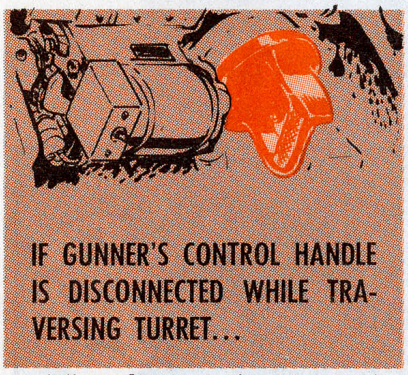
"SHORT 'N SWEET DEPT"



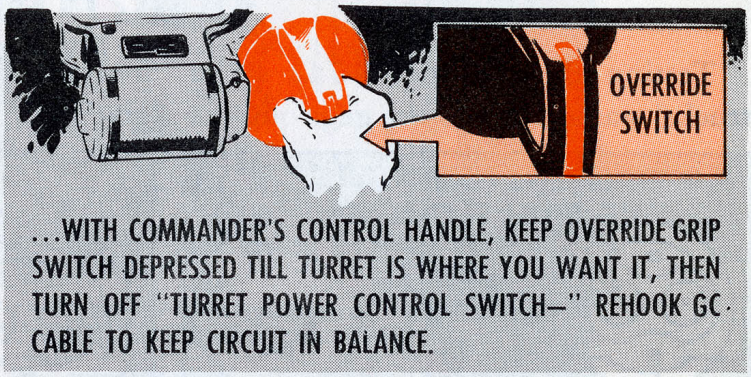
Touchy Controls

When power traversing the turret or power handling the 120-MM guns in your M103A1 tanks, you've gotta watch the way you operate the gunner's and commander's control handles.

These handles are a coupla doozies that hafta work together as a team in putting the turret or gun through their paces. If both are cabled up, you'll have a balanced circuit—but that circuit becomes unbalanced when the gunner's control handle is disconnected.



IF GUNNER'S CONTROL HANDLE IS DISCONNECTED WHILE TRAVERSING TURRET...



...WITH COMMANDER'S CONTROL HANDLE, KEEP OVERRIDE GRIP SWITCH DEPRESSED TILL TURRET IS WHERE YOU WANT IT, THEN TURN OFF "TURRET POWER CONTROL SWITCH—" REHOOK GC CABLE TO KEEP CIRCUIT IN BALANCE.

The danger begins when you start traversing the turret with the commander's control handle when the cable to the gunners handle is disconnected. When you let go of the commander's control override grip switch, that turret will go into a slew and the gun will fly up or down and be completely out of control.

If, for one reason or 'nother, any of you turret mechanics decide to leave the GC handle disconnected and intend to traverse the turret with the CC handle, better keep the override grip switch depressed (might need a buddy to help) until you've got the turret where you want it, then turn off the "turret power control switch." In most cases it would be better to rehook your cable to keep the circuit in balance to make it safer to work around your tank.

It only takes a second to hook 'em up, so why take any chances.

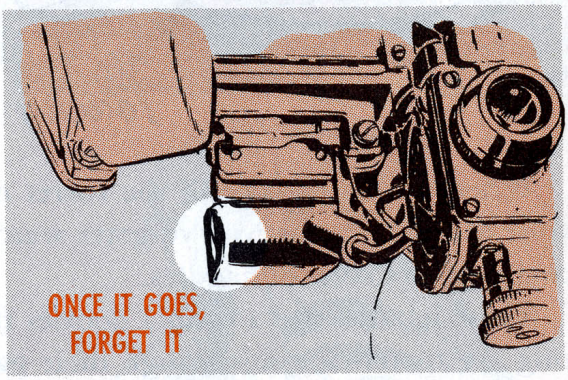
There's always the possibility that the harness to the gunner's control handle can go out and leave you with this unbalanced condition, so keep it checked out for shorts.

Lights Out

Did you tankers hear the latest scoop?

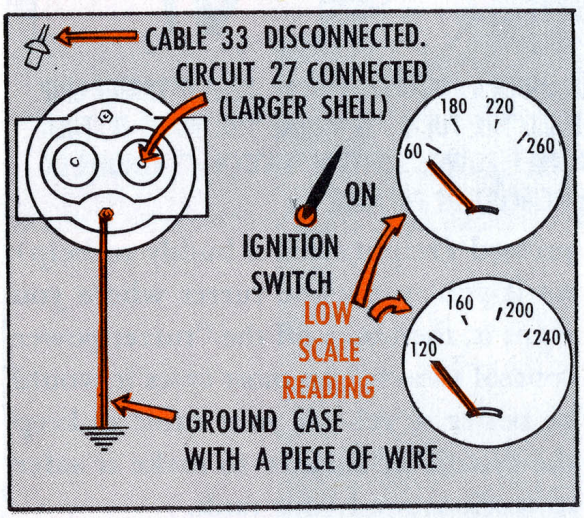
Gunner's and commander's ready indicator lights are no longer needed in your tanks.

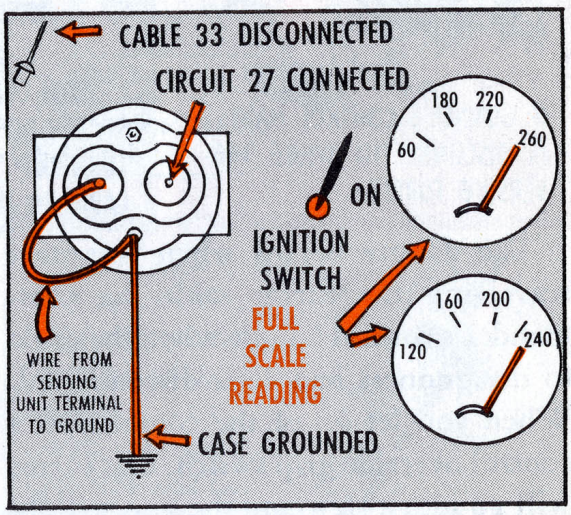
Meanwhile...you can use the lights as long as they're working. Once they go out, forget about them. They won't be repaired or replaced.



Opposite Effect

Testing the 2½-ton G-742 series trucks' water temperature gage out like it says in TM 9-8022, para 131, b4, will give with a phony reading.

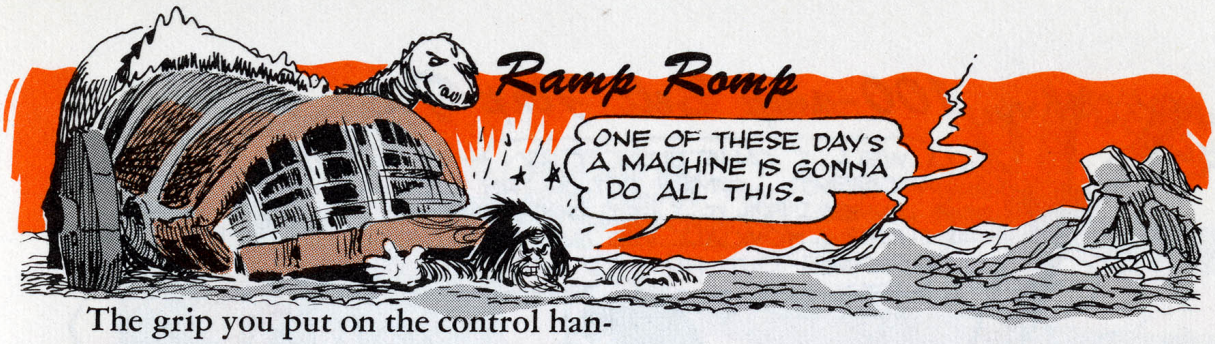




After removing the panel, disconnect the sending unit cable #33, ground the gage case with a wire, turn on the ignition switch, and the reading is low.

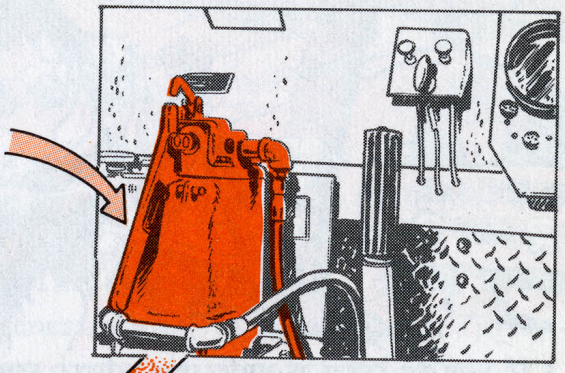
Now, run a wire from the sending unit gage **terminal** to the grounded wire, and the needle'll swing to a high reading. Anything else, and the gage is bad.

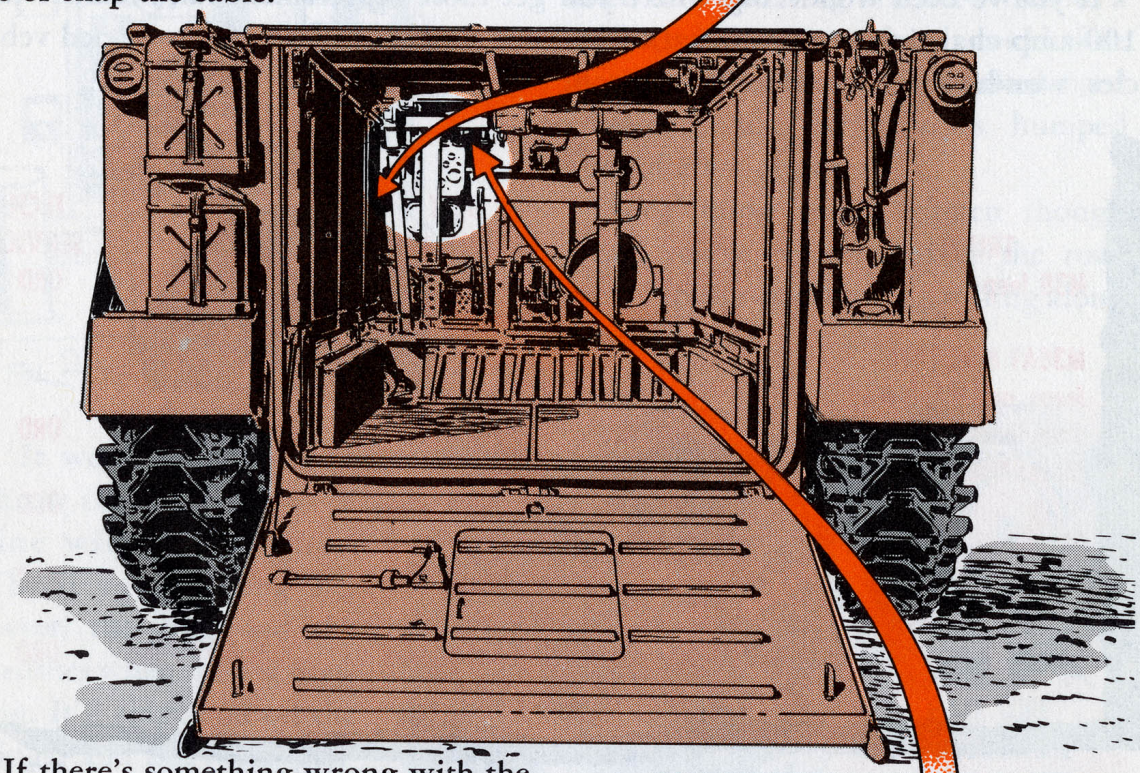
For that matter, all Ordnance vehicle electrical temperature gages get checked out this way. When changing a bad gage, make sure the new gage mates with your sending unit (Para 220, TM 9-8022).



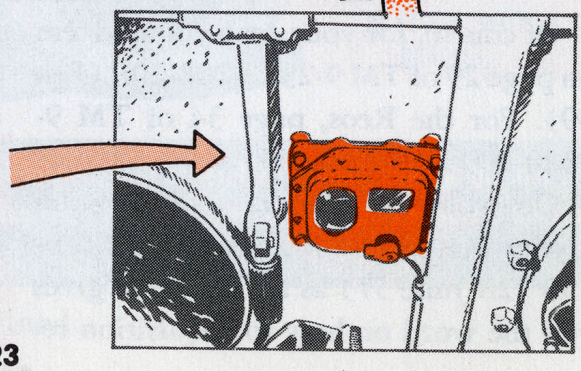
The grip you put on the control handle determines how fast the ramp of your M59 APC or M84 SP mortar comes down.

Touch 'er slightly and your ramp will lower nice and easy. Put a heavy hand on the control handle and the ramp will slam down in a free fall that'll probably do damage to the vehicle or snap the cable.

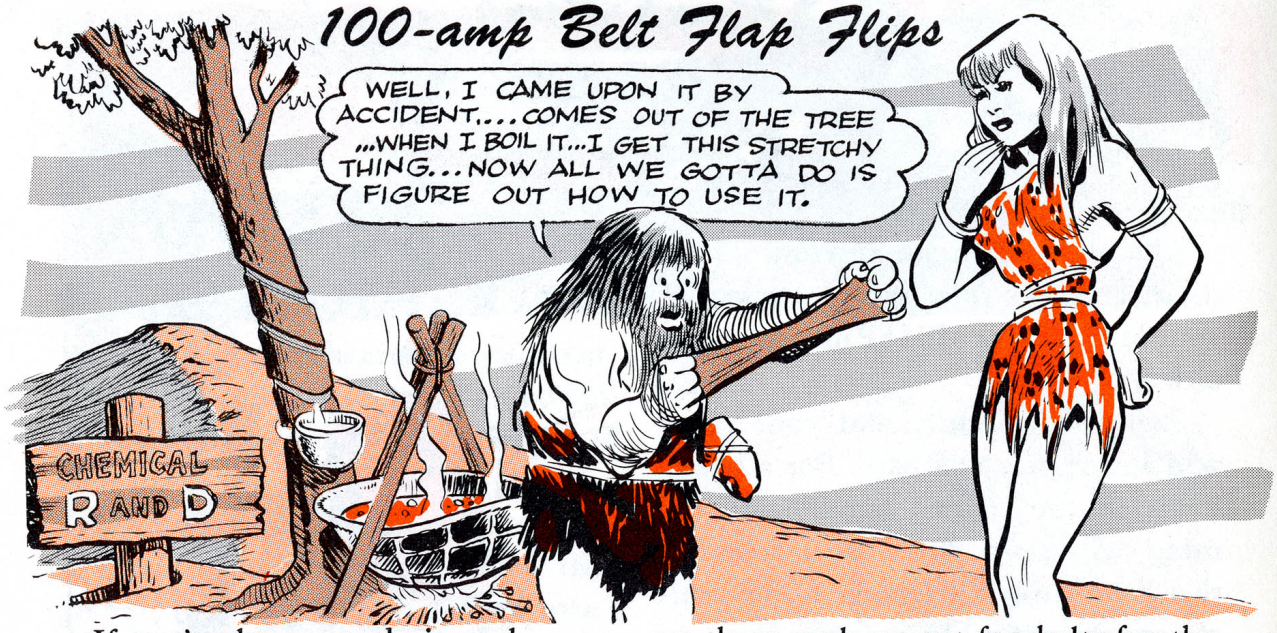




If there's something wrong with the hydraulic system—such as a lack of oil—you'll find that quick enough too. As soon as the mechanical locks are released, the ramp might come down with a bang. And that's another good reason to look over the system for possible oil leaks before lowering away.



100-amp Belt Flap Flips



If you've been wondering where you get those replacement fan belts for the 100-amp charging systems installed by your support unit in your wheeled vehicles, wonder no more. Here's the scoop:

TRUCK	MWO ORD	BELT NOMENCLATURE	FSN	TECH SERVICE
M38 Jeep	G740-W11 (1 Nov 56)	Belt set, Alternator drive	3030-517-0827	ORD
M38A1 & M38A1C Jeeps, and M170 Jeep Ambulance	G758-W6 (14 Nov 56)	Belt set, Alternator drive	3030-517-0827	ORD
¾-ton trucks (G741 series)	G741-W12 (11 Dec 56)	Belt set, Alternator drive	3030-517-0828	ORD
2½-ton (G742 series)	G742-W26 (24 Jan 57)	Belt set, Alternator drive	3030-517-0826	ORD
2½-ton (G749 series)	G749-W40 (19 Jan 57)	Belt set, Alternator drive	3030-601-7046	ORD

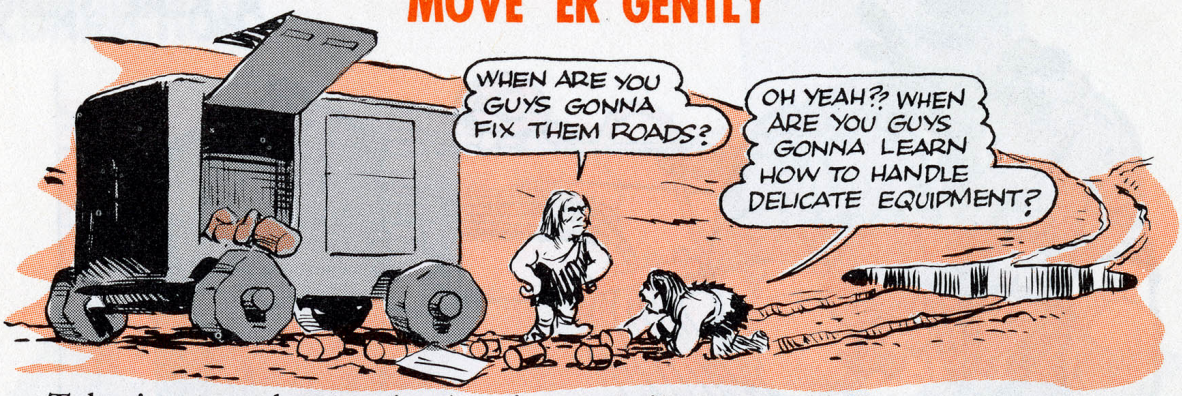
Of course, for your Jeep you find 'em on page 29 of TM 9-2320-208-20P (Feb 59). For the Reos, page 34 of TM 9-2320-209-20P (Apr 59).

On your ¾-tonners and 2½-ton Hydra-Matics you'll have to use SB 9-150 (28 June 57) as authority. It gives you the word on how to requisition repair parts you don't see in the manuals.

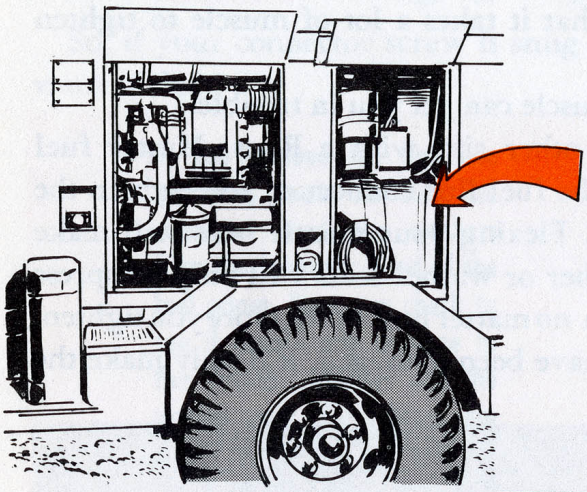
The Engineers had these belts according to AR 701-3030 (9 Apr 58).

The latest word, tho, is AR 701-3030 (10 Dec 59) which tosses these belt sets right back to Ordnance. So, see your Ordnance support today. See PS 86, page 13, for info on short belts for jeeps.

MOVE 'ER GENTLY



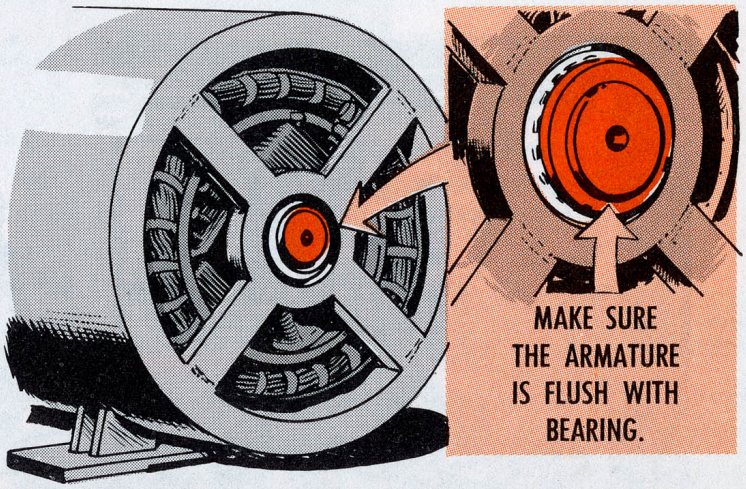
Take it easy when you're lugging a trailer-mounted Kurz & Root 45-KW generator behind you. A couple of stiff jolts in starting or stopping could play hob with your rig.



The rotating element of the main generator rides in a bearing that's press-fitted into a bearing bracket—without a retainer. This means that it could slide in either direction if she's jolted hard enough . . . like when she's humped aboard a freight car.

Same thing could happen though when you're wheeling over the road with a trailer-mounted rig rolling along behind you.

It won't take much to throw the slip ring out of line with the brushes. This'll cause arcing between the ring and the brushes when she's operating. It'll ridge and pit the rings, and put your generator on the sidelines.

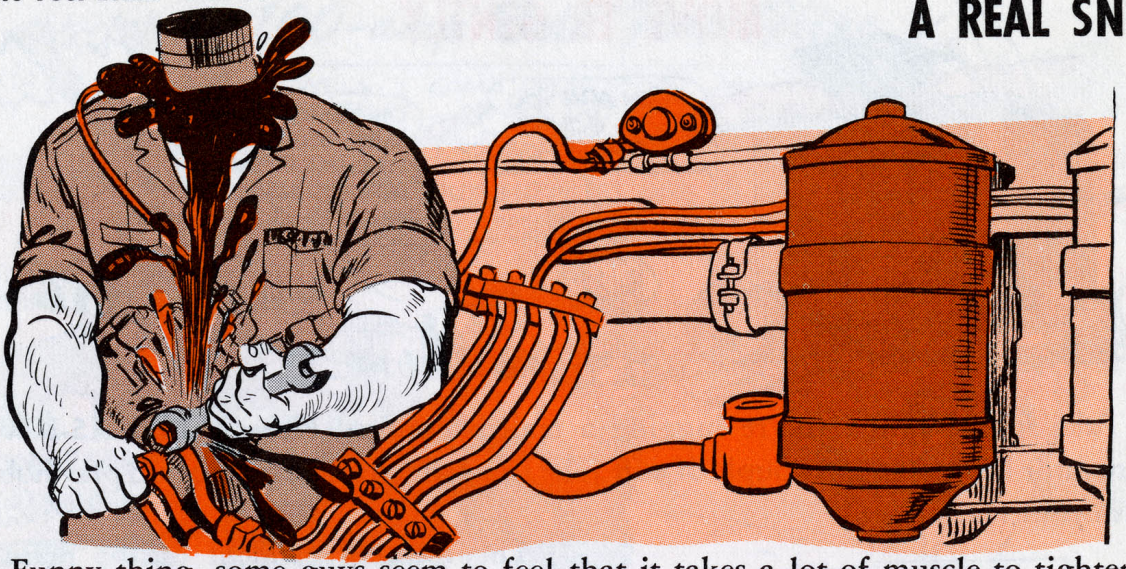


After an over-the-road trip or an excursion by train, inspect your generator to make sure the brushes are in proper alinement with collector rings. If the brushes are misalined, give your support people a call and let them take her from there.

But, don't start her unless they're alined.

No Fuel Leaks With . . .

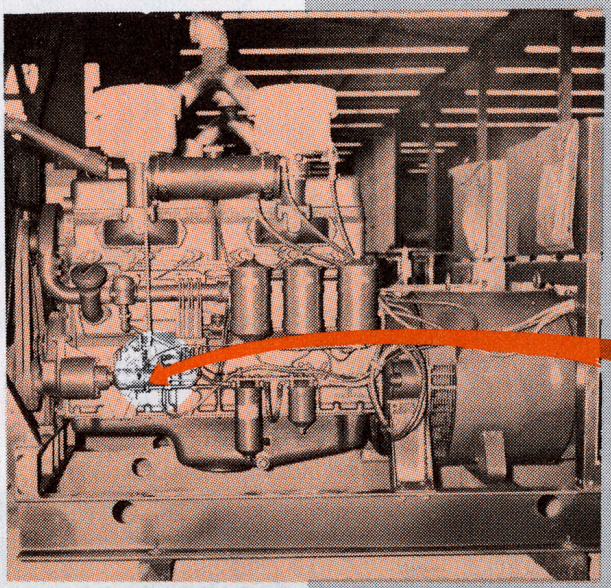
A REAL SNUG

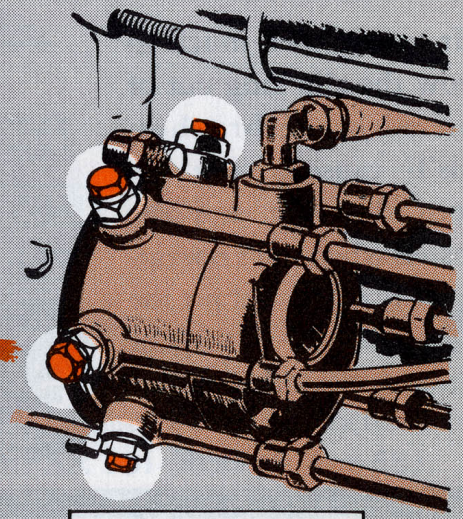


Funny thing, some guys seem to feel that it takes a lot of muscle to tighten leaky connections on fuel systems.

It works just the opposite—too much muscle can get you in trouble.

Now, take your 45-KW generator or other rigs with a Roosa-Master fuel pump. When you run into leaks around the fuel line connector, you tighten the connector screw until it's snug—no more. Flexing your muscle here will make the connection tighter, sure. But, the washer or washer seals will only compress and won't give you a leak-proof connection no matter how much more you tighten. Matter of fact, once the washer or seals have been damaged, it'll only make the leak worse.

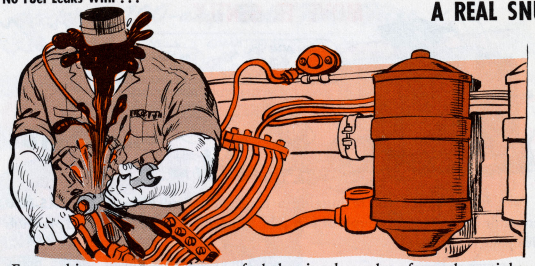




CHECK THEM ALL

No Fuel Leaks With . . .

A REAL SNUG



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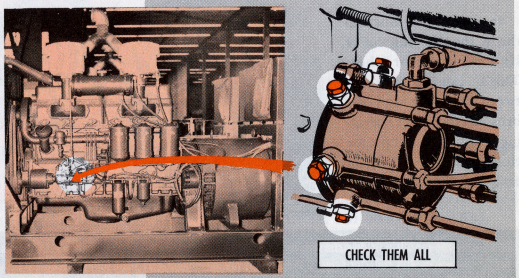
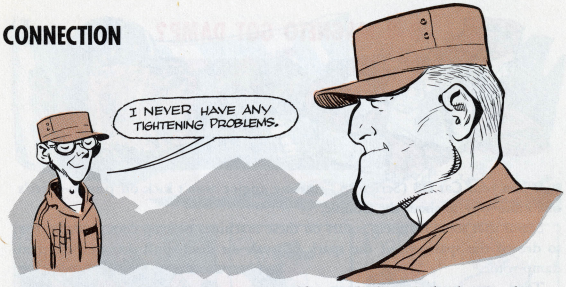
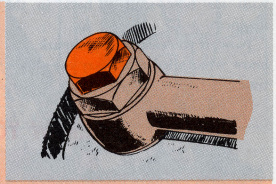


CONNECTION



So, if your connector screw is snug and you still have leaks, here's what you want to do:

1. You remove the fuel line connector screw, the fuel line connector, and the washers from the hydraulic head of the fuel pump. Then you check to see if there's any damage to the threads, washers and the washer seats. You replace 'em if necessary.



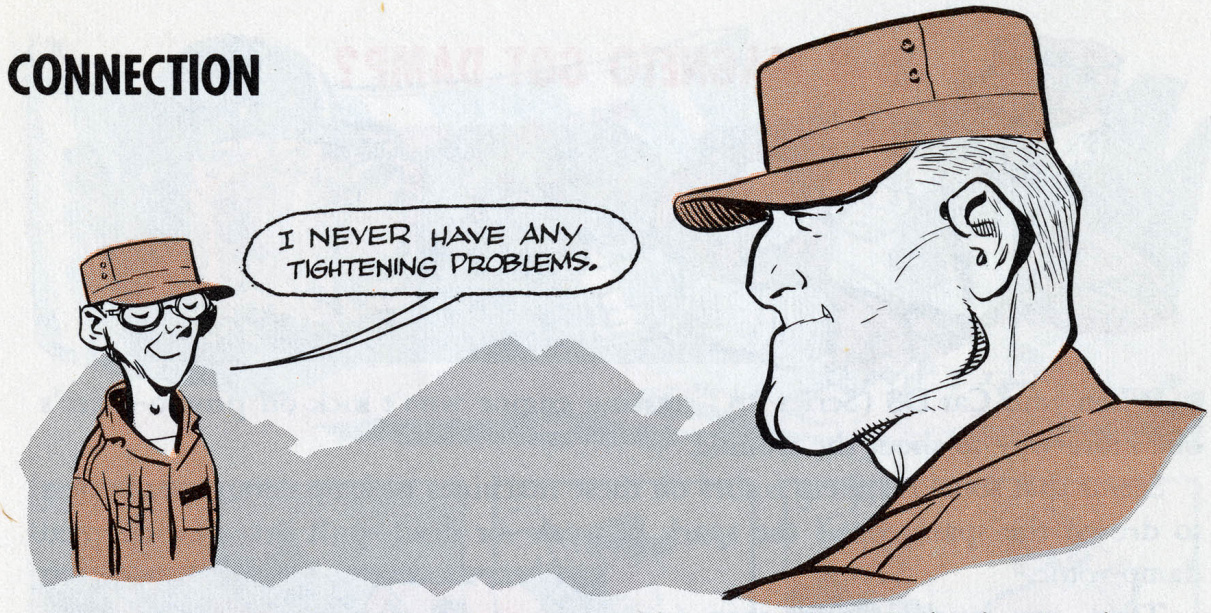
2. Now, you take off the check-valve-cover and the seal washer from the fuel-line-connector-screw. Make sure that the check-valve-spring and the check-valve-ball aren't lost or damaged. Now give the washer seal and the check-valve-cover the once-over for wear, damage, or defects. If they're worn or damaged, you replace them.

3. After you make sure that all the damaged or defective parts have been replaced, you reassemble the parts. Now—and this is real important—tighten the fuel-line-connector until it's snug.

Ease up on the muscles and . . . do not overtighten. Overtightening can give you a bigger leak than you started with.

This goes specifically for the Roosa-Master fuel pump, but the same principle of checking and not overtightening connections applies to most any type of fuel system.

CONNECTION



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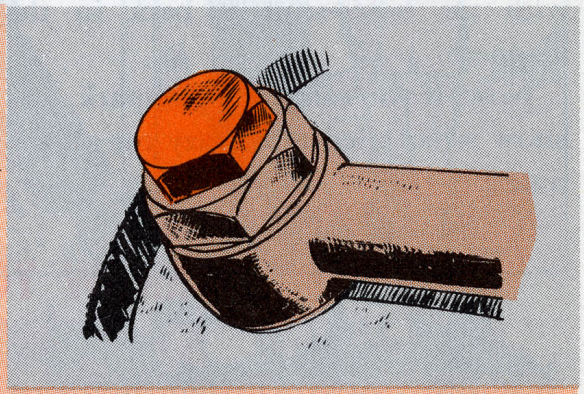

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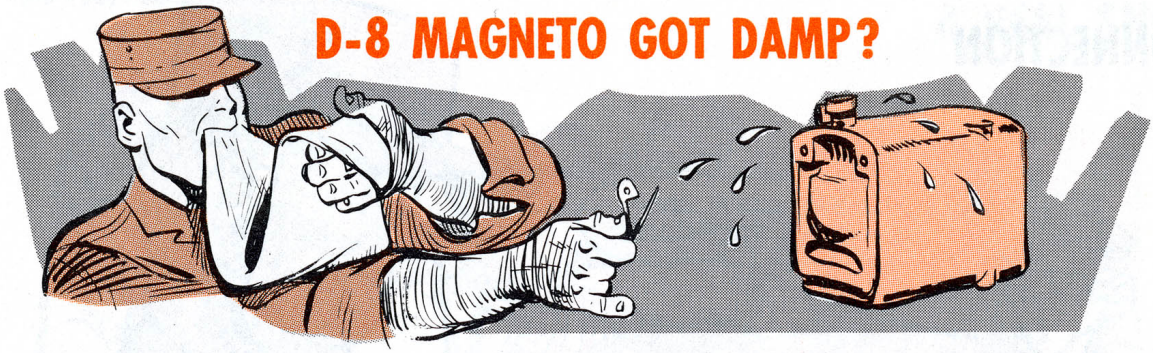
D-8 MAGNETO GOT DAMP?

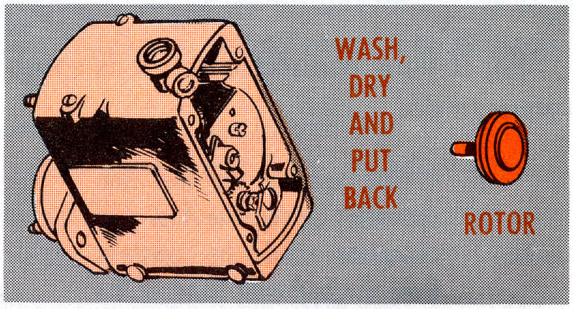


When your Cat D8 (Series 9A) starting engine won't kick off pronto—here's one more way to shoot the trouble.

Seems that some magneto rotors on these machines pick up enough dampness to drown the spark. So if the spark is weak—or dead—pull that dew-dappled damp rotor.

Then, you wash it with soap (no detergent) and warm water—dry it with air hose—stuff it back in the magneto.

Now, if you can spin up a spark, you know what ailed that crazy cat all the time.

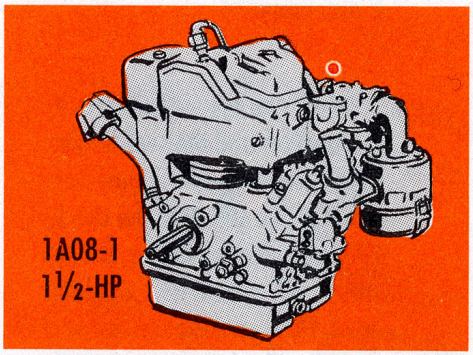


KNOW YOUR LIMIT

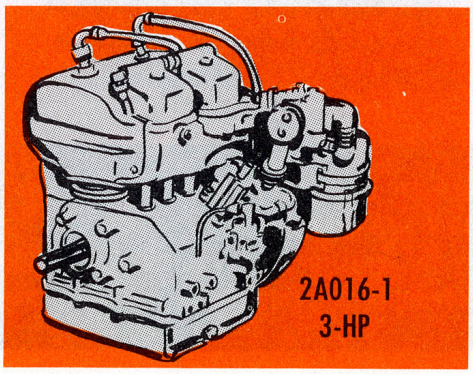
Whether you're wheeling your own souped-up convertible or an Army 6x6, you've got speed limits you have to obey. Same goes for your military standard engine . . . letting it overspeed can be a costly operation.

Your 1½- and 3-HP engines, models 1A08-1 and 2A016-1, were designed to run up to 3,600 RPM to get the most out of their rated HP. Pushing them over the 3,600 RPM mark or letting them run away leaves them wide open for failure.

And since your CO can consider overspeeding as an abuse of equipment, you may not be the happiest guy in the payline.



DON'T PUSH THEM OVER 3600 RPM



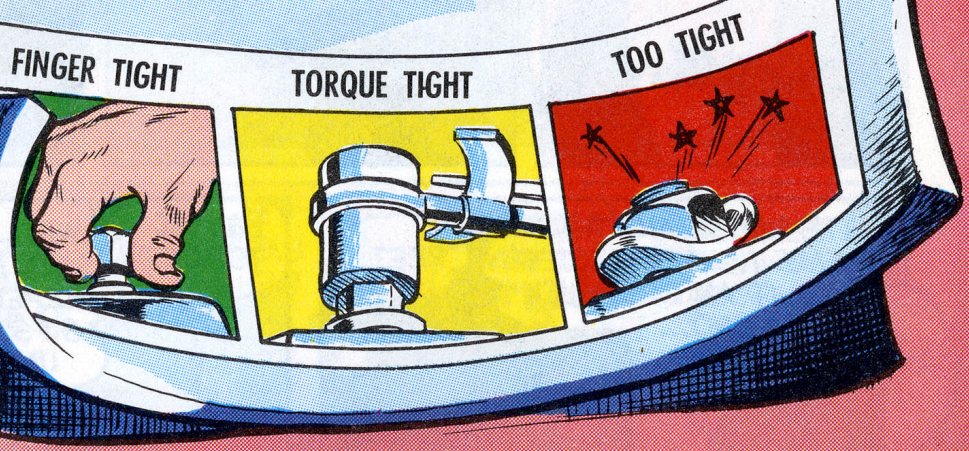
YOF'S
DOPE
TIGHT...
THE MAN SAYS
GASP
THERE'S A CMI TEAM DOWN AT SHNITZLEBERG GONNA COME UP HERE TO INSPECT US...
CLANK
CLANK
CLANK
CLINK

THEY ALREADY INSPECTED AN OUTFIT AT WELDSHNECKEN ...THE OLD MAN WANTS ME T'DRAW A DEUCE AND A HALF AND PICK'EM UP DOWN THERE IN AN HOUR... ARE WE READY?
SURE!
SURE?? MAN, YOU'RE FAR OUT FROM OUTVILLE... LISSEN, I SAW THESE GUYS HIT AN OUTFIT ARMED WITH ONLY A WRENCH AND X-RAY EYES ...WITHIN MINUTES, GIGS WERE FLYING LIKE A PIE THAT HIT AN ELECTRIC FAN.
WE GOT ONE HOUR TO TIGHTEN UP THIS OUTFIT... WHAT-I-MEAN!
GET OFF THE BENCH AND GRAB A WRENCH, 'TIS TIGHT-NIGHT IN THE OL' CORRAL!
Himmel! vas ist, Herr oberst?
COMES NOW DER GOOFNAGEL MITDEM WRENCHSHTICKEN ÜNGETIGHTENUNG MACHEN...

BUT HOW ABOUT THE TM?!
F'GET IT... JES' TIGHTEN, MAN, T-I-G-H-T-E-N!
?
THE TM SAYS "FINGER TIGHT."
THEM INSPECTORS GOT WRENCHES, REMEMBER?
Vas ist ?
VAS IST?...WE MUST ZUPER TIGHTENUPEN DER VINGENNUTTEN UNDGIFS NO GIGGEN.
CRAZY MAN, WHAT?
HEY, DAD... THIS NUT GOT A RATED TORQUE...BUT IT'S STILL LOOSE!
BE RIGHT THERE!!
IT'S LOOSE AND THAT MEANS TIGHTEN IT... JES' GIVE IT AN EXTRA LICK OR TWO...
REET!
Vas ist TORQUE?
WELL...ER...IT GIFFS SASS FROM DER HERR INZPEKTOR ZO VE GIFS MIT DEM TIGHT UND NO GIGGEN!

JOE'S Dope Sheet

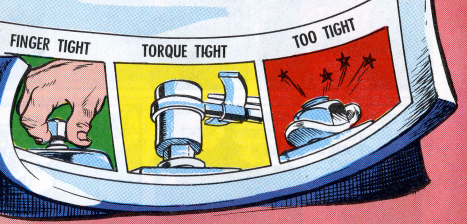
Some bolts are made to be tight...
Some snug, some light to be right.
Be you inspector/inspectee
Check your TM...S.O.P.
Don't strong-arm each bolt in your sight.

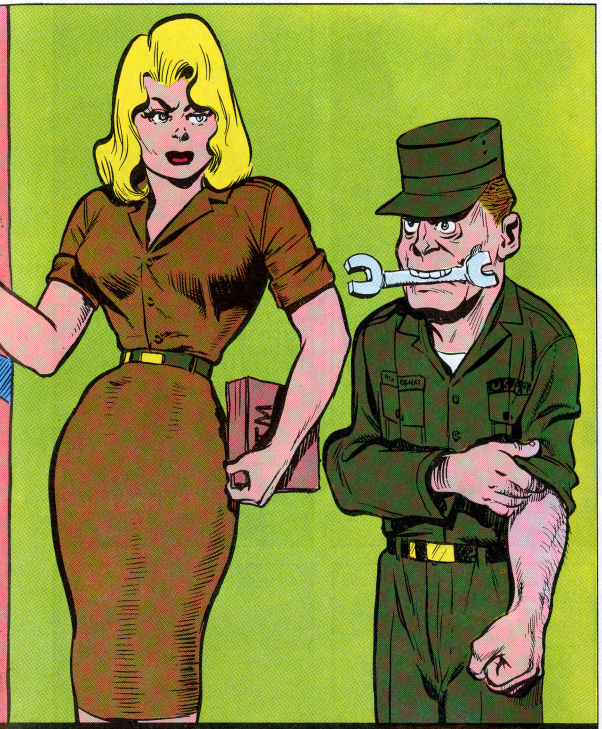


WE HAVE THE WORLD'S BEST EQ

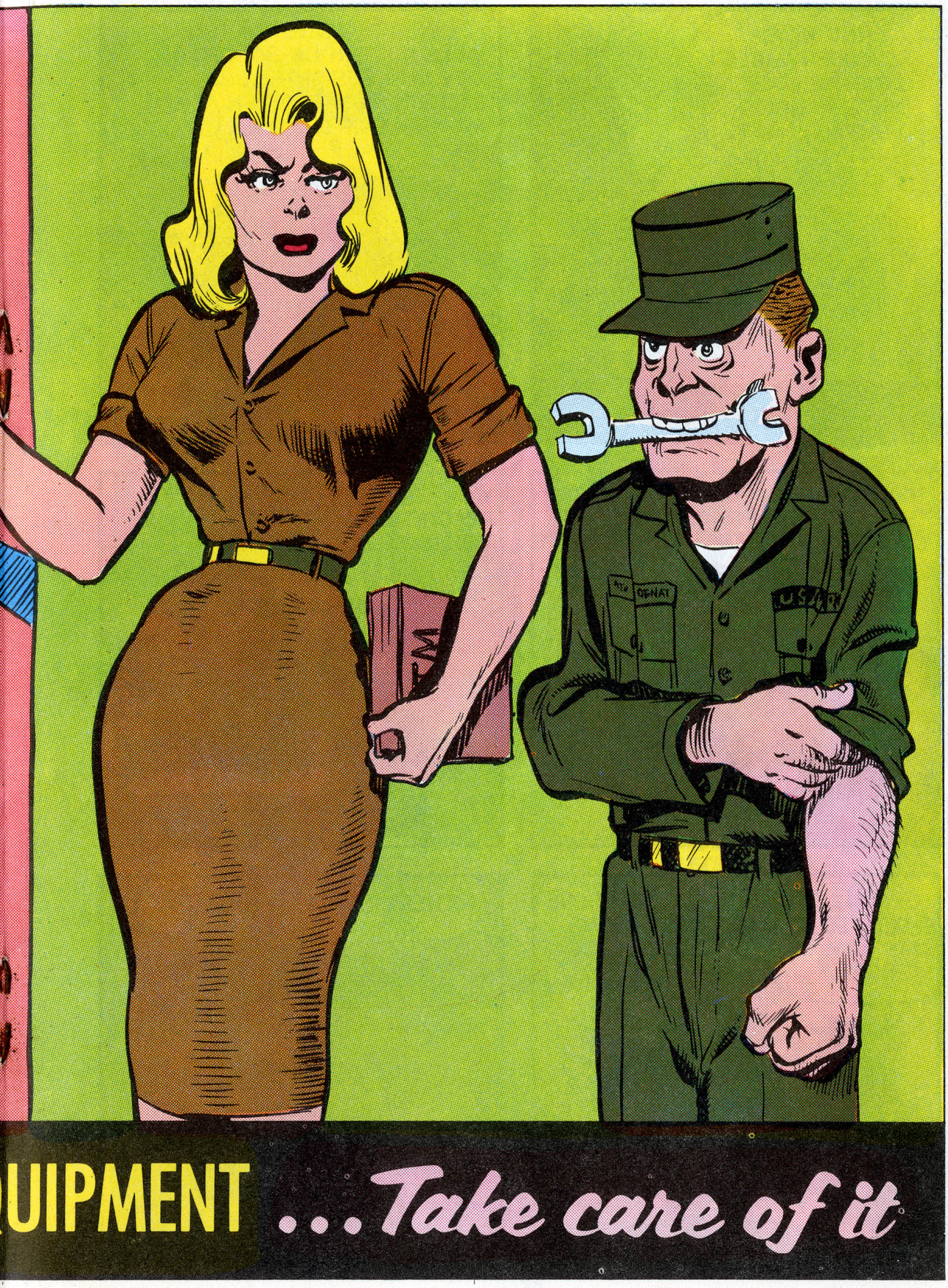
JOE'S Dope Sheet

Some bolts are made to be tight...
Some snug, some light to be right.
Be you inspector/inspectee
Check your TM...S.O.P.
Don't strong-arm each bolt in your sight.





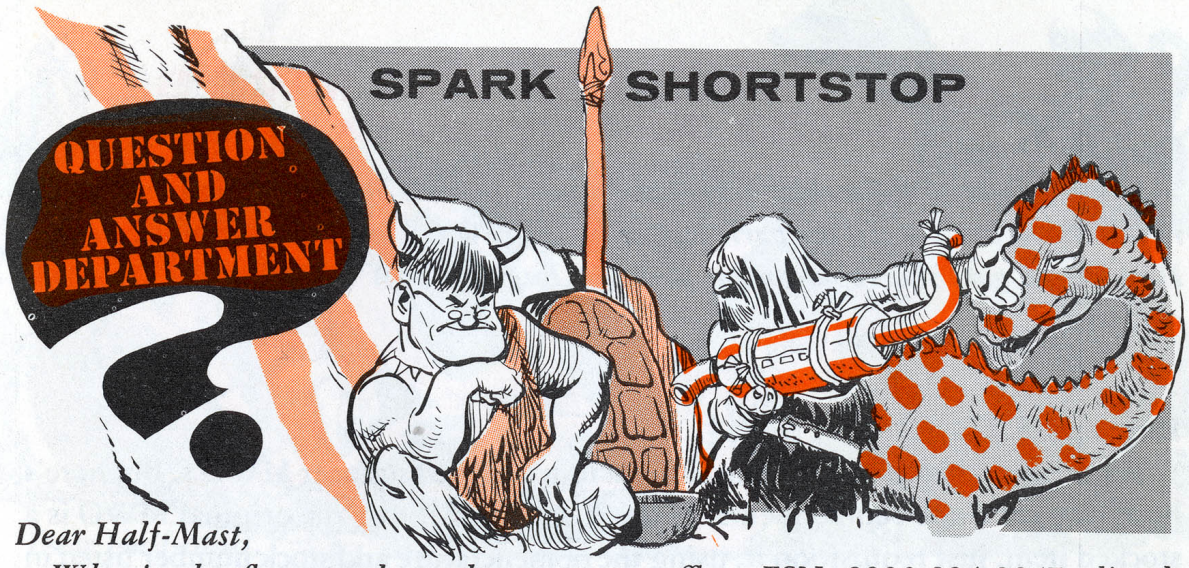
WE HAVE THE WORLD'S BEST EQUIPMENT ...*Take care of it*


QUIPMENT ...Take care of it

UND NOW, EXCUSEN WHILE I TIGHTEN DER NUTS N' BOLTS ON YON PANZER.
ZEE, ICH UNGETIGHTEN ALLE NUTTEN UN BOLTEN IN DER GUN GESIGHTEN UND BALLESTEN COMPUTEREN MACHEN SHIP SHAPEN... YA VOHL?
ACH DU LIEBER
HEY, MAN, EASY ON THAT CHOPPER...THAT'S COVERED IN THE TM.
LISSEN, BOY— ONE LOOSE NUT AND WE'RE UP THE CREEK. I'M NOT LEAVIN' IT TO CHANCE.
WOW! THAT'S PRACTICALLY A COLD WELD!
Y'SURE THIS IS WOT THEY WANT?
YOU GET THE MESSAGE, JUNIOR. Y'R DOIN' FINE!
GROAN... THAT SHOULD DO IT...MAN, MY ARM IS SORE!
O.K.— JUST ONE MORE THING...
THERE NOW, WE'RE READY!
SCREEK!

HERE'S YOUR VEHICLE... G'WAN AND PICK 'EM UP... WE'LL BE READY FOR 'EM WHEN THEY GET HERE!
SQUEEK!
SQUEEK!
SQEEK
TWEEEEEEEEK!
TWEEEK!
♫BOY-OH-BOY! WE GOT IT KNOCKED! WHEN THEM EAGLE EYES HIT OUR OUTFIT, WE'LL BE READY!
Schnitzleburg

WHY, WE'RE TIGHTERN' A OBOE PLAYER'S... EEOW! HEY, I CAN'T STEER!
Crash
I'M HERE TO PICK UP THE CMI TEAM, SIR!
LATER... BACK AT THE OUTFIT
...AND THE WHOLE DANG OUTFIT IS GIGGED... PASSES CANCELED AND AN INSPECTION CALLED FOR TOMORROW! AFTER WE GO OVER EVERY BOLT, NUT AND SCREW WITH TM IN HAND... BY THE WAY, WHO TIGHTENED THE STEERING BACKLASH ADJUSTMENT SCREW WITHOUT CHECKING THE TM FIRST.
Vas ist?
ÜBER GETIGHTENT MIT DER SQUEEKSHTICKEN ON DE SHTERING MACHER UND NIX GEHOLDEN ON DEM HILLDOWN SHNELL... SEE??

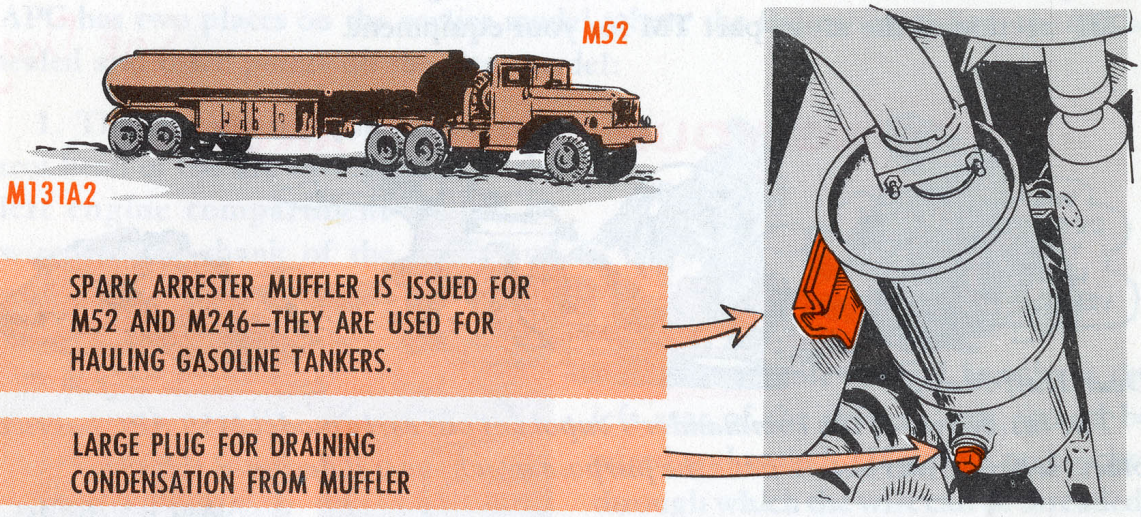


Dear Half-Mast,

Why is the flame and spark arrester muffler, FSN 2990-294-2257, listed only for the M52 and M246 truck-tractors? Shouldn't it be for all trucks handling explosives or highly flammable material?

What is the large plug on the muffler for?

Sgt M. B.



Dear Sgt M. B.,

This safety-type muffler is issued for the M52 and M246 because they're used in hauling gasoline tankers. You don't need this muffler for general purpose 5-ton vehicles not intended for use as gas haulers.

O'course the muffler can be installed on any vehicle used for gasoline hauling if your CO finds it's needed for safety.

Vehicles hauling explosives usually don't need the safety muffler if they are operated right. TM 9-1903, para 70b directs that truck engines be stopped, brakes set and wheels chocked, before loading or unloading ammunition. You might need the spark arrester muffler, though, if you're using engine power to operate mechanical handling equipment.

The large plug is for draining condensation from the muffler.

Half-Mast

REPAIR PARTS FOR ENG MWO'S

Dear Sgt Dozer,

I notice some of the tech services have a note on their MWO's telling how to get replacement parts when the parts put on by the MWO's are worn out or damaged. How do we get these replacement parts for Engineer MWO's? The MWO's don't clue us.

SFC H. D.

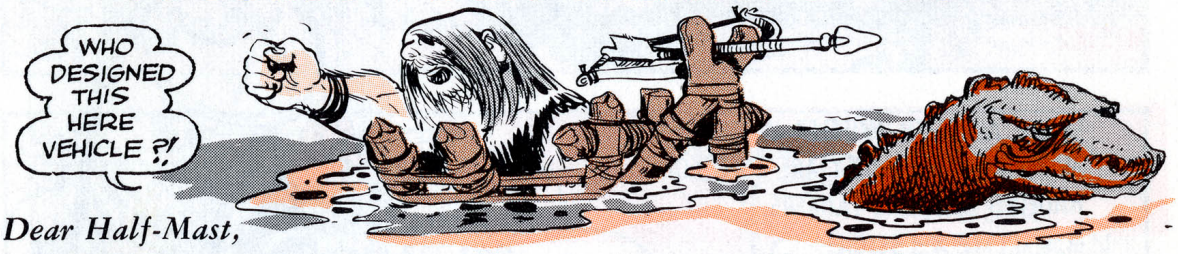
Dear Sgt H. D.,

It sure would help to have that info included in the Engineer MWO's. But here's how you get those replacements. If the item called for by the original MWO is a stocked item, just requisition it, using the nomenclature and stock number listed in the MWO. If it's a non-stocked item, do the same thing but list the MWO so the item can be identified easier.

In many cases your item will have to be locally fabricated, either by you or your support unit. The MWO will give you the info and the authority. Your replacement parts for MWO's are also included in changes to the ENG 7, 8 & 9, or the —20P section of the multi-part TM for your equipment.

Sgt Dozer

TOSSING YOUR WEIGHT AROUND



Dear Half-Mast,

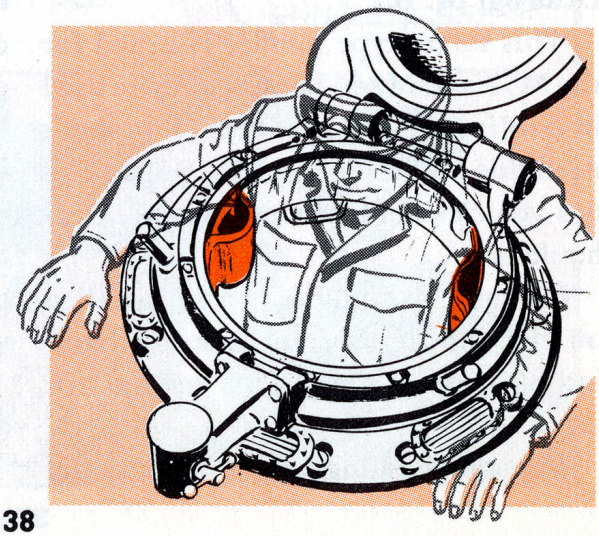
The inside rim of the commander's cupola of our early model M59 APC has two places where it juts out. What's the purpose or why was it designed this way?

MSgt W. R. McC

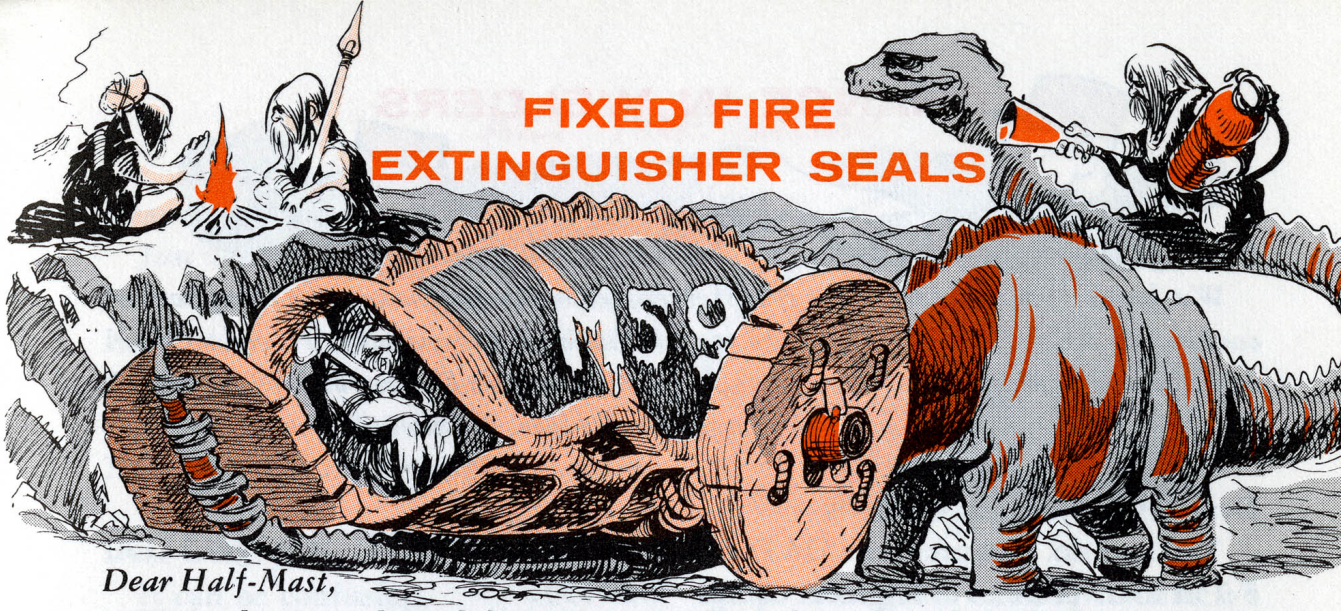
Dear Sergeant W. R. Mc C,

The two projections in the crash pad are to help you operate the externally mounted machine gun. You place your shoulders or back against the pad between the projections and shift your body to change the direction of the machine gun. You sorta throw your weight around—to help make a quick shift to a new target.

Half-Mast



FIXED FIRE EXTINGUISHER SEALS



Dear Half-Mast,

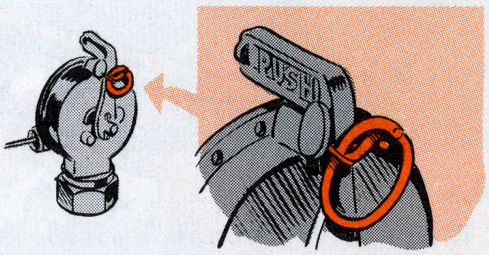
We're having a heated discussion on where the seals and the locking wires of the fixed fire extinguishers go on the M59 APC. The TM doesn't give the whole story on this.

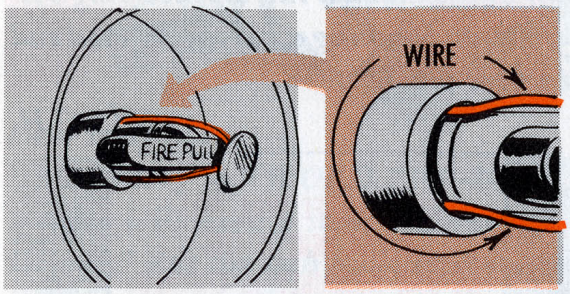
Sgt. C. V. S.

Dear Sergeant C. V. S.,

You can simmer down your hot arguments 'cause here's the story... The M59 APC has two places on the earlier model where the fire extinguishers should be sealed and three points on the later model:

1. The crank safety pin on the control head of the fire extinguisher in the left engine compartment should be wired to the shank of the crank and sealed.





2. The remote control handle at the left rear of the driver's seat should be wired and sealed. (If there's no bracket through which the wire can be threaded, the wire should be secured to the cable conduit retaining nut.)

3. Besides these two places—on the later model personnel carrier there's a remote control handle on the left outside of the vehicle. This handle should be sealed the same way as the one in back of the driver's seat.

The M59 manual, TM 9-2300-203-12 (Oct 58), mentions the seals in a note on page 300, when it tells about installing the control head of the fire extinguisher. The pub didn't catch up to the later modification and that's probably the reason the outside (external) control handle isn't mentioned.

Half-Mast

CHANGE IN WELDERS

Dear Sgt Dozer,

We know that welders were transferred from the Engineers to Ordnance according to AR 701-3432. Although we still have ours physically, we've lost them as Engineer equipment. Do we have to send through a DA Form 5-73A to show that they're no longer a part of the Engineer equipment inventory?

SFC A. J.

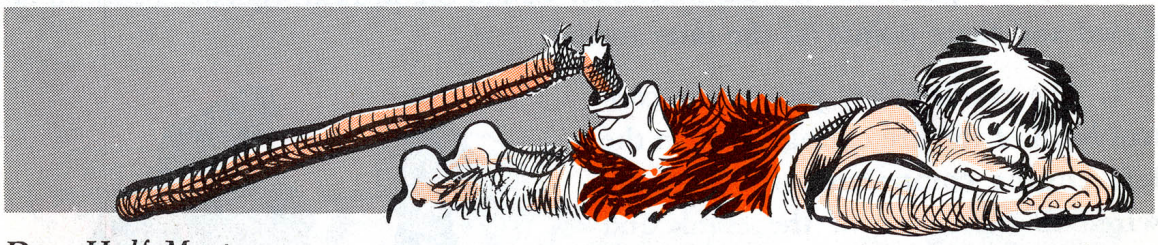
Dear SFC A. J.,

You sure do. You prepare a DA Form 5-73A to cover losses of Engineer equipment on the date that the responsibility changes. You fill out the 5-73A like it says in AR 711-541, change 2 (20 Nov 59).

Your remark in item 16 will be: "Engineer loss to Ordnance Corps, AR 701-3432."

Sgt Dozer

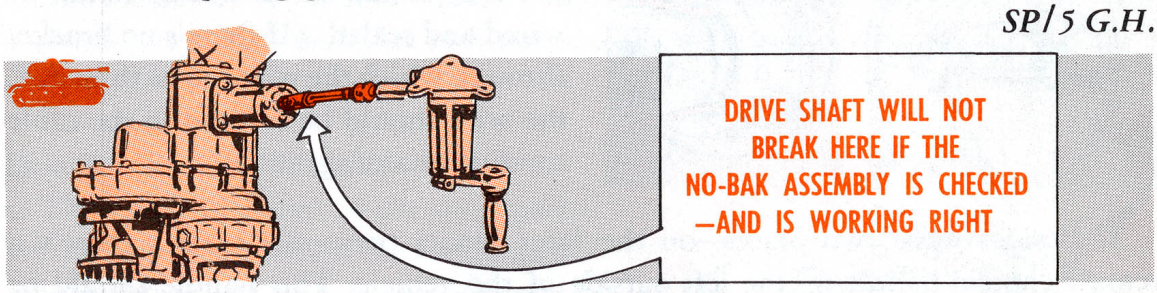
SHAFTING FROM A SHAFT



Dear Half-Mast,

We're having trouble with the drive shaft of the manual turret traversing system in our M48 medium tanks. These shafts keep breaking off at the tapered end where the snap ring goes. What's the story here please?

SP/5 G.H.



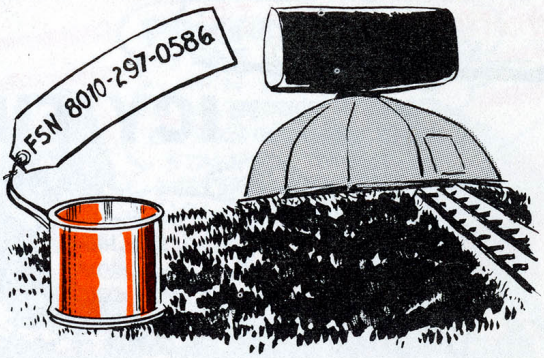
Dear Specialist G.H.,

That shafting your tanks are taking from the SHAFT: drive, (FSN 2520-799-7201) of the hand traversing drive is coming from a bad No-Bak assembly. A slipping No-Bak will allow a reverse motion and cause that shaft to break.

The No-Bak should be examined by your support unit for a weak or broken spring and to see if it's working right. This "before operations" check should stop the drive shaft failures.

Half-Mast

ALL THE SAME



Dear Half-Mast,

Just what is the story on M33 FCS and Nike acquisition antenna radome paint: I see where it's listed under FSN 8010-297-0586, but I've also seen two different Fed Specs—TT-E-529, Class A, and TT-C-595—for the same stock number.

CWO J. H.

Dear CWO J. H.,

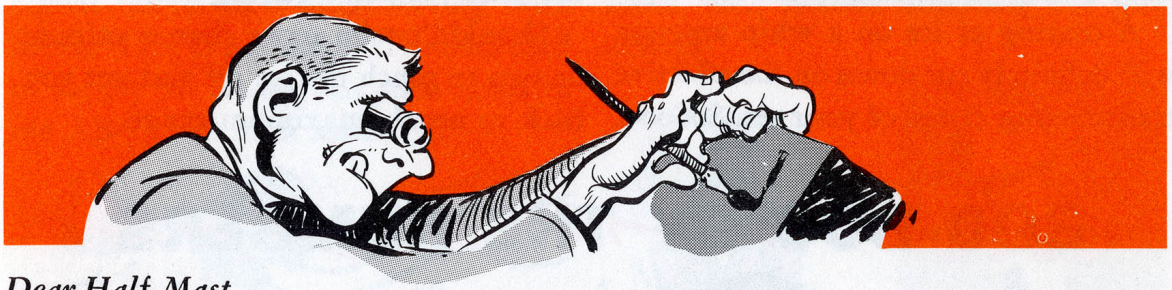
It can be confusing.

Before we start explaining, let's make one correction. Fed Spec TT-C-595 has been superseded by Fed Std No. 595 (1 Mar 56). OK...Fed Std No. 595 pinpoints the color of the paint. And Fed Spec TT-E-529 tells that the paint is synthetic semi-gloss enamel...what it's made of...and the fact that it's non-metallic. Class A means it's air drying. Class B refers to oven drying.

You just go along with the Federal Stock Number and you won't have any trouble.

Half-Mast

NO MORE ROOM



Dear Half-Mast,

According to TB ORD 2300-20/3 (31 July 58), motor vehicles equipped with a radio will have a stencil: "Shut Off The Electric Accessories Prior to Starting Engine." But the tech bulletin says it should be ¼ inch high.

This size stencil just isn't to be had, and the size of the instrument panel just won't take the next size stencil - which is ½ inch.

We've partly solved this problem by having our artist paint this warning on. Are we in the clear?

Lt. N. E. M.

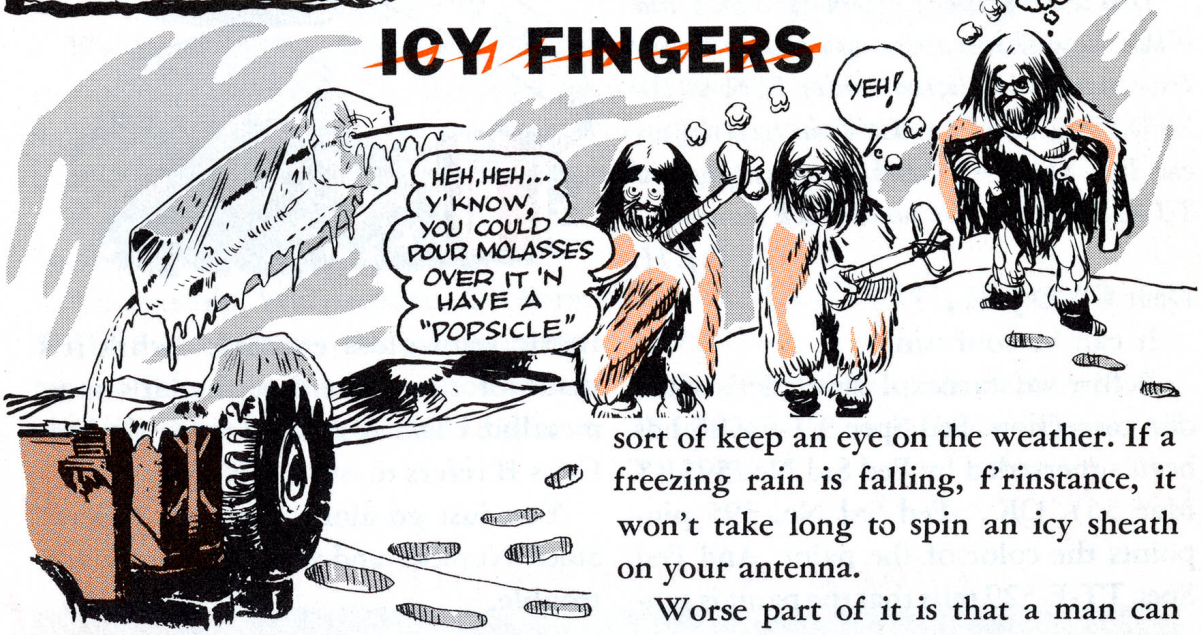
Dear Lieutenant N. E. M.,

You're obeying the spirit if not the letter of the order. Hand painting the warning on the instrument panel is one way of doing it.

However, you can hold off...'cause this TB is rescinded by DA Circular 310-4 (26 Feb 60)

Half-Mast

ICY FINGERS



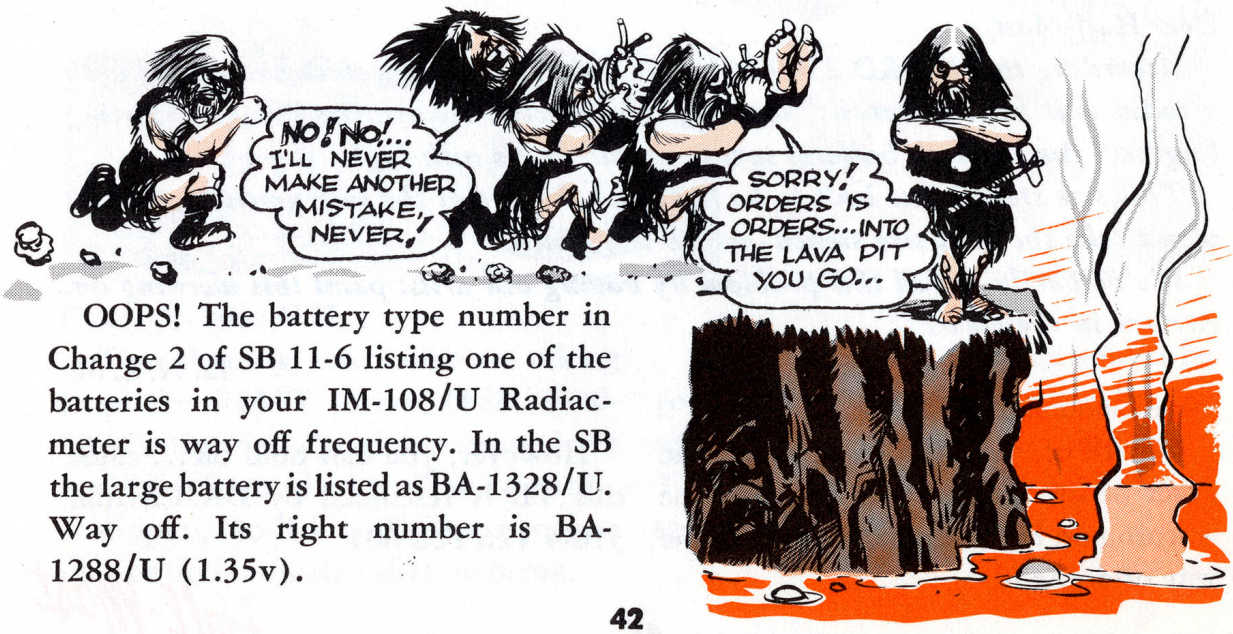
Tain't funny when icy fingers run up and down your antenna. Can actually have a very deadening effect.

A coating of ice on a whip antenna will definitely cut down on the effective transmitting range of your set. Sooooo, sort of keep an eye on the weather. If a freezing rain is falling, f'rinstance, it won't take long to spin an icy sheath on your antenna.

Worse part of it is that a man can twist and tune the set all he wants—and not increase his output one little bit if the juice just isn't getting out.

Shouldn't take more than a minute or two to pinch the ice off and get you back to nearly maximum range.

BOO-BOO BY THE NUMBERS

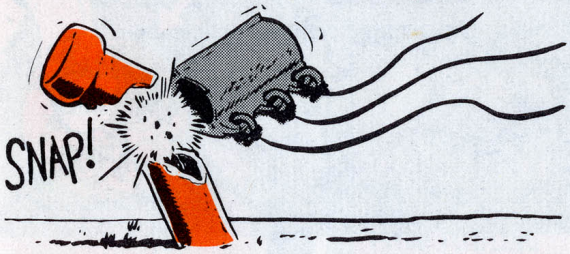


OOPS! The battery type number in Change 2 of SB 11-6 listing one of the batteries in your IM-108/U Radiacmeter is way off frequency. In the SB the large battery is listed as BA-1328/U. Way off. Its right number is BA-1288/U (1.35v).

ALL STAKED OUT

When it comes to steaks, you want 'em soft and easy to chomp into.

But when it comes to stakes, you want 'em tough and able to stand up to pressure. Which leads to the trouble some Signal outfits have been having with the GP-113/G guy stakes. The ones used to supply an anchor for such items as the AB-235/G mast assembly.



Sometimes they suddenly crack — usually a few inches from the top—without any real reason. No unusual stress. No heavy winds blasting at the antenna. They just crack . . . sending the whole mast into a nosedive.

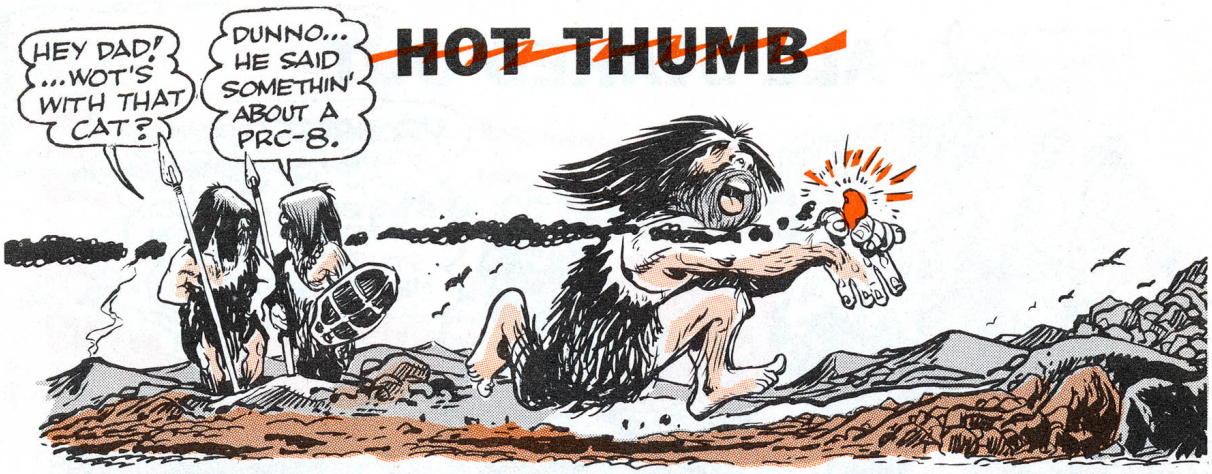
Seems the weakness is inborn. But many of them have been strengthened by an improved staggered weld. And many of them have not. So, a savvy rigger will look closely at the upper end of those stakes for even the thinnest crack or hint of a crack.

One technique that works just about every time is: first pound the stake into the ground and then check it for cracks, flaws, etc., **before** attaching the guy clamps.

If the crack doesn't show after the stake has been pounded for a while, chances are it's in good shape and ready to steady your array.

If you do find one with a crack, turn it in for a good one.

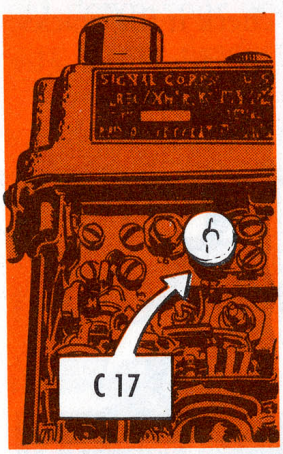
HOT THUMB

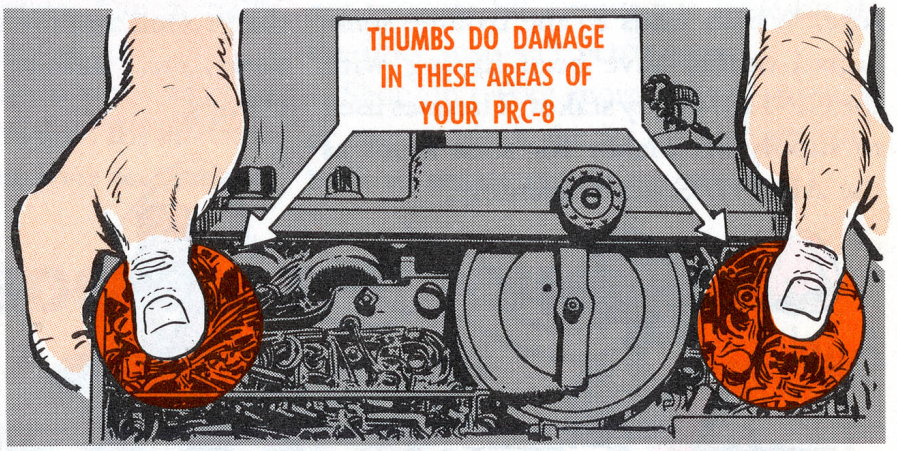


Li'l old Jack Horner may have been a "good boy" when he stuck his thumb in—but he'd come up with a pretty sour plum if his thumb ended up inside a PRC-8. Which is no fairy tale.

What generally happens is this: When a man grips the receiver-transmitter chassis and starts to slide it in or out of the case, chances are he's got hold of it by the two front panel corners.

And his thumbs rest or press on some of the internal components. In the case of the PRC-8, the slightest pressure on several of the "innards" can throw the whole set out of alinement.





For example, take the C17 capacitor up there in the corner near the nomenclature plate. In the tuning process, it must be adjusted for a correct zero reading. And just about anything — especially a finger — that touches it will jolt it out of adjustment and throw the set out of alinement.

Comes time, then, to lay hands on the chassis of your walkie-talkie, grab it good and tight by the front panel—making especially sure the thumbs (or any other digits) stay clear of the internal components.

Because not only will pressure on those parts tend to de-tune a newly tuned set, but there's always the risk that some of the mechanism will be seriously damaged.

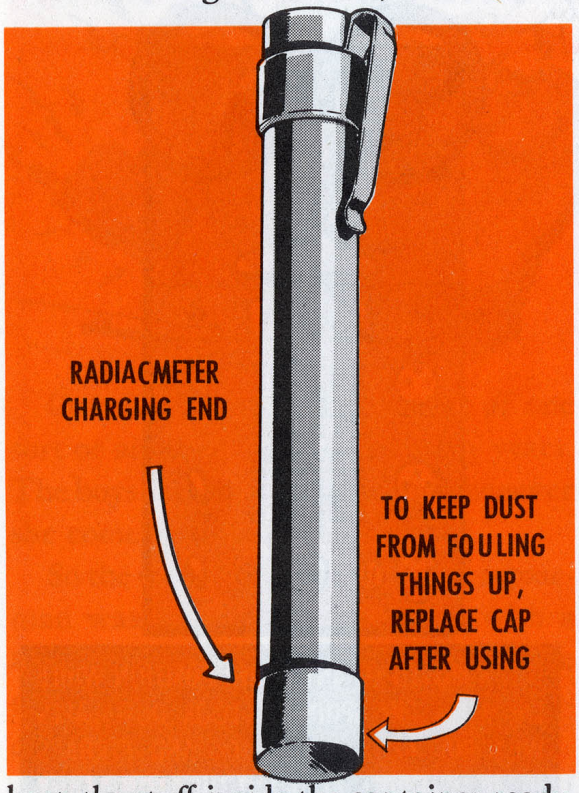
When that happens, not only is time wasted and lost, but otherwise good parts go down the drain.

SET YOUR CAP

"Please replace cap after using."

You've seen these simple requests on such items as ketchup bottles, mayonnaise jars, maybe medicinal spirits!

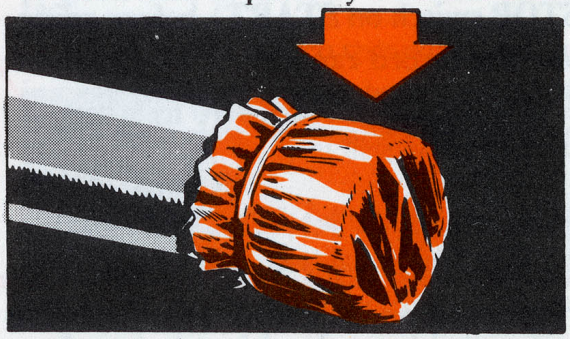
And for a good reason, too. So's to keep the stuff inside the container ready for use for a longer period of time. Same with your IM-93/UD Radiacmeter (dosimeter) — although the little reminder doesn't show up anywhere on the item.



But the idea is the same. The small plastic cap that fits over the business end of the radiacmeter performs a high priority mission. It keeps out dust. And dust can raise all kinds of sweat when the time arrives to charge the IM-93.

Because it drifts down from the charging socket into the well of the Radiac Detector Charger (PP-630/PD, PP-630A/PD or PP-1578) whenever the dosimeter is stuck into the charger.

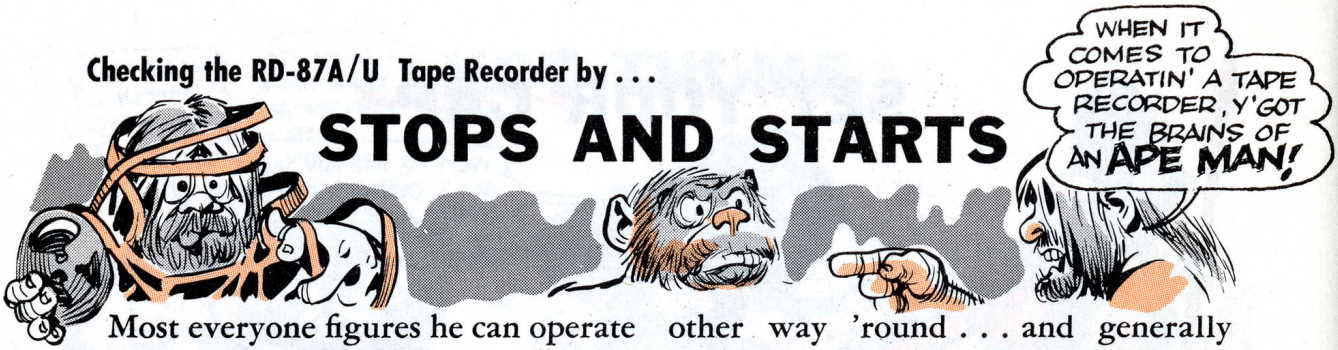
So cap the dosimeter not only to keep dust out of its own charging socket, but to make sure no dust sifts into the detector charger comes charging time. Since no replacement caps are available, one way to make up for a missing one is to pop on a home-made cap of cellophane or cloth held in place by a rubber band.



Sounds primitive, but it works every time. Keep 'em capped, then, except when charging or reading.

Checking the RD-87A/U Tape Recorder by . . .

STOPS AND STARTS



Most everyone figures he can operate a tape recorder. Nothin' to it! Just turn the knobs to the indicated position and you're set to play and play back.

Which is exactly why so many tape recorders end up with broken knobs, ripped tape and sore heads. Mostly because there are some control settings that can't be made until another one is made first.

It's a case of stopping with one before starting with another . . . or maybe the other way 'round . . . and generally knowing the working relationship among the different controls.

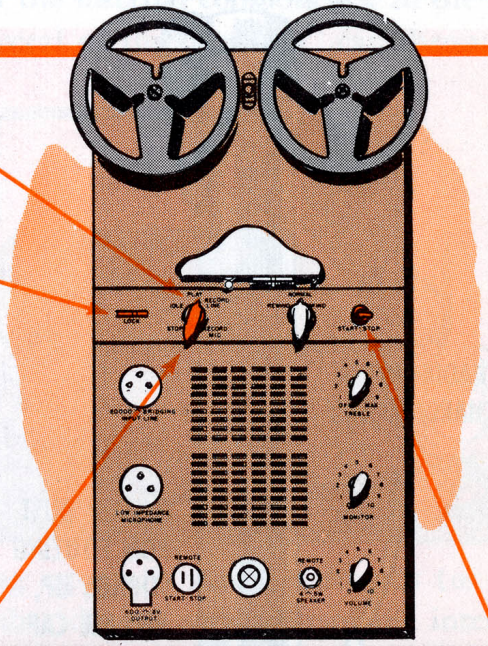
Sounds confusing, maybe, but actually it's simple enough.

And to keep it that way, why not concentrate on two particular controls that are used about most of the time in operating the RD-87 (and most other recorders, too) . . . the **MASTER CONTROL** and **WIND-NORMAL-REWIND.**

When you're ready to record, the **MASTER CONTROL** switch can be turned to the two **RECORD** positions only if the **LOCK LEVER** is released (pushed to the left).

Turns out that most people unfamiliar with the machine sometimes figure the **MASTER CONTROL** is maybe stuck . . . so they try to force it to the **RECORD** positions. Always check to see that the lock is off (and the **START-STOP** switch on **START**) before going into the record range.

Ready to wind or rewind? Never try to start that operation until the **MASTER CONTROL** is set on **IDLE.** And then keep it in that position 'til the wind or rewind job is finished.



IF IT'S MOVED TO ANY OTHER POSITION WHILE THE REELS ARE SPINNING—LOOK OUT! TAPES WILL RIP, REELS WILL ROCK AND PERHAPS HEADS WILL ROLL. ALSO, PUT THE **STOP-START** SWITCH ON **START.**

A word or two, also, about starting up the recorder and shutting it down. Like almost any kind of machinery, the recorder needs a short warmup period for the best results. If you have the time, allow up to ten minutes . . . but always at least one minute.

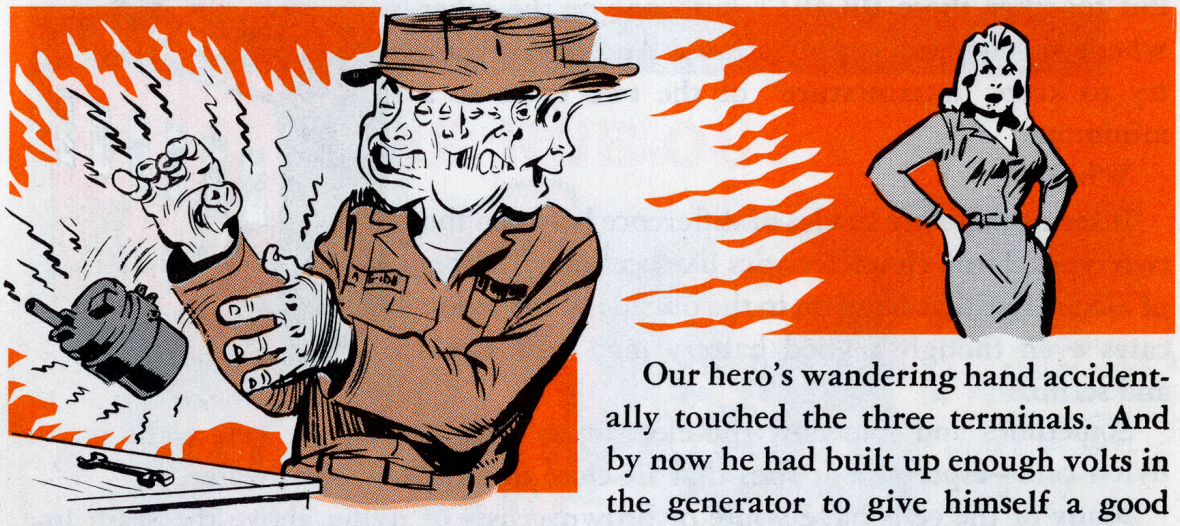
After the last words are recorded and the final playback heard . . . and you're finished until the next time . . . turn the whole works off with the TREBLE knob. That kills all power to the entire unit.

Speaking about power, the receptacle for the AC power line is the quarter-turn type. These are tricky, because they give the first impression of being the type you just shove a plug into straight-on.

But not so. A gentle quarter-turn to the right has to be completed before the plug will seat into the receptacle. Too many gents—some of them in a hurry—push and push and jam and jam and can't figure why the (&--#") (%$) plug won't go in! Quarter-turn first, please.

Follow these simplest of operational tips and chances are much, much, much brighter that your recorder will listen and talk back on cue every time.

ALL CHARGED UP AND DOWN



Connie's been causing sparks of one sort or another for lo these many years. The boys just start generating whenever she comes within eyeball sight.

So the story goes that this wire repairman was standing at his bench with a G-42/PT generator in his hand. Routine telephone check. Then, outside the window, along comes Connie.

This gent starts watchin' her. Real close. He unconsciously starts cranking the generator. She's still walking. He's still watchin'—only harder. He cranks harder. His hand wanders over the generator. YIPE!

Our hero's wandering hand accidentally touched the three terminals. And by now he had built up enough volts in the generator to give himself a good jolt. That's what happened—and that's how come Connie's admirer dropped the generator.

Might sound like fiction, but it's a fact.

'Cause ten or fifteen seconds of cranking can build up somewhere around 50 volts. And that will cause anybody to let go.

Since those G-42's are non-repairable items, you've got a costly charge on your hands. So never crank without a cause and run the risk of touching a live terminal and dropping a good generator into salvage.

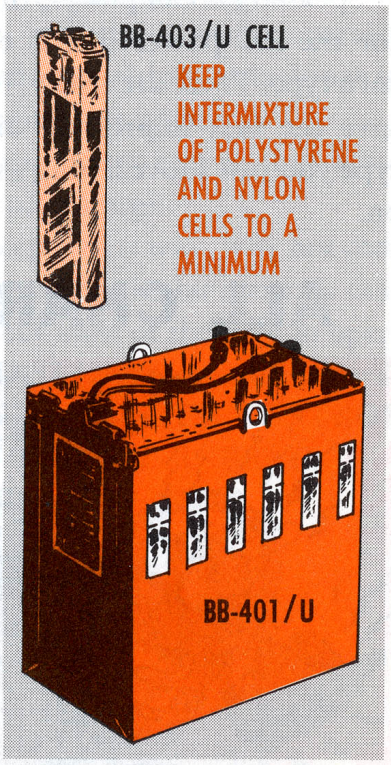
A SHORT COURSE ON . . .

CELL GROWTH

'Tis true that the BB-403/U cells in your BB-401/U Nike batteries are more or less interchangeable.

The newer nylon cells are designed to snuggle up with the older polystyrene models, and vice-versa, so that the power punch of your BB-401 always will be strong enough to juice a missile where it will do the most good.

But, whenever possible, it's best to make up your batteries either with all nylon or all polystyrene cells. Put together those BB-401's with one or the other whenever your cell supply allows. And in any case, try to keep "intermixture" of the two types to a minimum.



Why?

It seems there are shades of difference between the two types. Little characteristics like occasional traces of electrolyte that hang on to the outside of the nylon cases even though a good battery man will scrub and scrub.

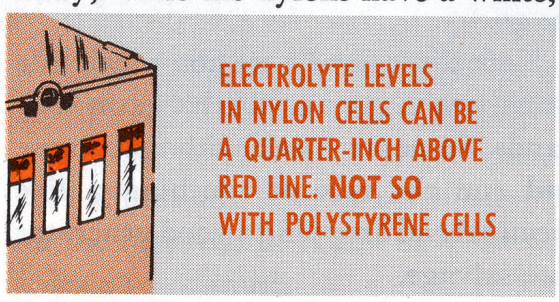
Sometimes and somehow the electrolyte creeps along the cell walls on the nylon cells—especially at sites that lie close to large bodies of water.

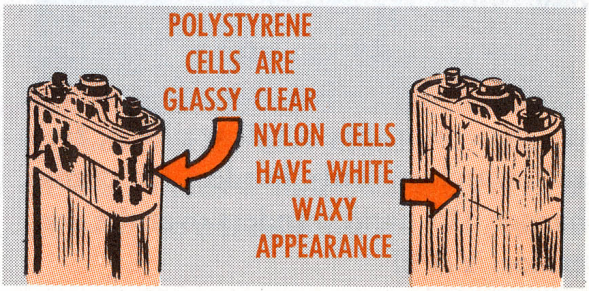
Many of the cells have white or brown crusts of nylon above the seam line. Trimming off the crusts with a pen knife will make the cells easier to wash.

Also, the electrolyte levels in the nylon cells can be a quarter-inch above the red line without causing bubble trouble—which is strictly NG in the case of the polystyrene cells.

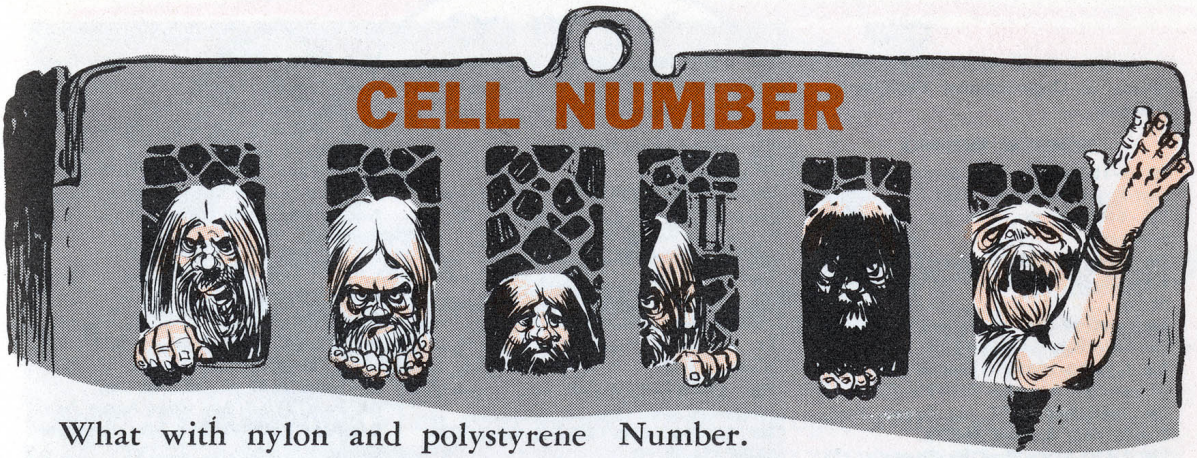
And so it goes. Little things that add up to extra problems when a man is busy enough maintaining his load of BB-401's.

It's easy to spot the two cell types. The polystyrene cells are glassy clear and shiny, while the nylons have a white, waxy appearance.





CELL NUMBER

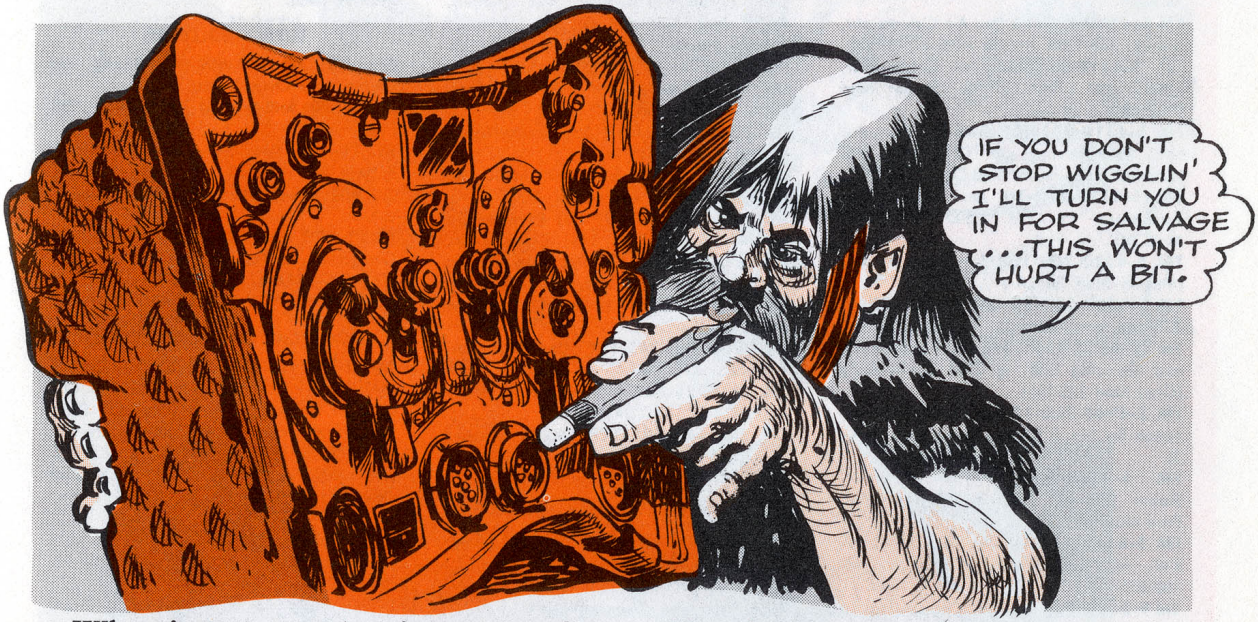


What with nylon and polystyrene cells charging in and out of your BB-401/U Nike batteries these days, some gents been wondering if maybe each type cell has its own Federal Stock Number.

Whether your BB-403/U cell is made out of glassy clear polystyrene or waxy white nylon, the cell name and number remains the same:

BATTERY, STORAGE BB-403/U: cell for BB-401/U: 1.2 total voltage. FSN 6140-635-3394

THE RUB-OUT



When it comes to cleaning such radio equipment as connectors, plugs and jacks, one of the best ways to handle the job is with a pencil.

Yes, indeed. The eraser on that pencil behind your ear will rub out almost any kind of light tarnish or grit or corrosion that collects on those delicate contact spots.

Not the heavy stuff, of course. That calls for sandpaper or maybe a burnishing tool. But for a quick rub-out of the light grit that always gathers in those places (and which can kill a contact) the eraser does the job quick and easy.

Naturally, when you're finished, you blow out any eraser dust that collects during the rubbing operation.

A selected list of recent publications of interest to Organizational Maintenance Personnel.

TECHNICAL MANUALS

TM 1-1L-26C-1A Feb Safety of Flight Supt Flight Handbook, L-26C.
TM 1-H21-S Jan Prep For Ship H-21 Helicopter.
TM 1-1H-13-538 Jan Inspect Metal Tail Rotor Blade, Hub Assy, Pitch Contr Mech (H-13).
TM 1-1H-19-563 Jan Relocat Main Trans Oil Temp Bulb (H-19C, D).
TM 1-1H23-1020, 11 Jan 60 Inspection of Stabilizer Assembly (H-23B & C).
TM 1-1H-37A-1057 Jan Rework Pilot, Copilot Seat Support (H-37A).
TM 1-L23-S Jan Prep for Domestic, OS Ship L-23.
TM 1-1L-19A(T)D-4-20P Dec.
TM 1-1L-20A-4-20P Dec.
TM 1-1L-23D-4-20P Dec.
TM 5-2420-202-20P Dec Tractor, wheeled (Cat Modl DW-20M).
TM 5-2420-204-20P Dec Tractor, Wheeled, Indus (M-R-S Mod 190).
TM 5-2420-205-20P Jan Tractor, Wheeled (Minneapolis-Moline).
TM 5-3810-207-20 Dec Crane-Shovel, 20-T, 6 x 6.
TM 5-3825-200-20P Jan Snowplow, Truck Mtd. (Frink Mod RO-10).
TM 5-4120-202-12 Jan Air Conditioner 36,000 BTU (Ellis and Watts Mod Ce-36-B-60).
TM 5-4310-207-10 Dec Air Compressor, Rotary, 210 CFM (Harris Mod J-210 Fed).
TM 5-4310-212-20P Jan Compressor, Rotary, 600 CFM, 100 PSI (Jaeger Mod ENG-600).
TM 5-4310-216-15P Dec Air Compressor, Reciprocating, 5 CFM, 175 PSI (Champion Pneumatic Mod OEG-3460-Eng).
TM 5-4310-217-10 Jan Reciprocating Compressor 15 CFM, 3,500 PSI (Davey Mod P4).
TM 5-4320-209-15P Jan Pump, Centrif (Meyers Mod 30 LA-2-½-1094E).
TM 5-4500-200-12 Jan Heater, 400,000 BTU (Herman Nelson).
TM 5-4930-205-15P Dec Lubricating and Servicing Unit, 16 CFM Comp Recip (Gray Mod 225-155).
TM 5-4940-202-12 Jan Contact Maintenance Set No. 3 (Davey Comp Mod CMU-3).
TM 5-4940-204-15P Dec Cleaner, Steam 100 PSI Electric Driven (Aeroil Prod Mod B-3B).
TM 5-6115-218-10 Dec Set, Diesel 100 KW, AC, (JETA Metal Fab Mod MD 1001815-W).
TM 9-2330-239-25P Dec Chassis, Trailer: 3-T, 4-Wh XM113E1 XM113E2, 5-T, 4-Wh, XM 456.
TM 9-2330-246-25P Dec Van Semi-trailer, Electronic, 3-T 2-Wh, M348A1.
TM 9-2350-210-12 Jul M53 155-mm gun and Howitzer M55 8-in.
TM 9-2430-200-20P Dec Tractor, M8A1 and M8A2.
TM 9-5130-322-20P Dec Wrench Impact, Pneu ½-in Sq Dr (Mall Tool Mod PW-308P).
TM 9-9502-17 Nov Assy Site Elec Equip Tester (Nike-Ajax).
TM 10-3930-403-10 Jan Tractor, Wheeled, Warehouse (Mercury Super-Huskie A-452-54).
TM 10-3950-202-10,-20 Dec Crane, Truck, Warehouse, 10,000 Lb. Cap (Hughes-Keenan Mods V-10, V-10 RS, Army Mod MHE 137).
TM 10-4510-201-10,-20P Jan Bath Unit, Port 8-head, M-1958.
TM 10-4540-201-15P Dec Heater, Length 30 In. For Corrugated Cans; 37¼ In. for Tank Trailer.
TM 10-7360-203-15P Jan Cooking Outfit, Field.
TM 11-5805-204-15 Dec Communication Patching Panel SB-611/MRC.
TM 11-5805-219-10P Dec Power Supply PP-691/G.
TM 11-5805-263-12P Dec Terminal Telephone AN/FTA-6.
TM 11-5805-280-12P Dec Ringer TA-38/FC, TA-39/FC.
TM 11-5815-200-12P Dec Teletype-Writer Set AN/FGC-20, AN/FGC-20X, AN/FGC-21, AN/UGC-4.
TM 11-5815-257-12P Dec Reperforator, Teletypewriter TT-107B/FG, TT-109/FG.
TM 11-5815-259-12P Dec Teletype-writers TT-47A/UG, -47B/UG, -47C/UG, TT-69A/UG, -69B/UG.
TM 11-5820-259-12P Dec Power Supply PP-621/URR.
TM 11-5820-343-12P Dec Power Supply PP-1127/U, PP-1128/U.
TM 11-5820-349-15 Nov Radio Sets AN/TRC-27A, AN/MRC-59, AN/MRC-60.
TM 11-5410-202-10P Dec Shelter S-44/G, S-44A/G.
TM 11-5820-350-20P Dec Amplif, Radio Freq AM-1154/G, AM-1154A/G; Control, Amplif C-16 37/GR, C-1637A/GR, and Power Supply PP-1234/G.
TM 11-5820-358-20P Dec Receiver, Radio R-390A/URR.
TM 11-5821-203-12 Sep Radio Transmitting Set AN/ART-34.
TM 11-5821-205-12P Dec Radio Set AN/ARC-60, AN/ARC-60A.
TM 11-5825-203-20P Dec Receiver Gp OA-1451 (CE)/PRR.
TM 11-5826-207-12P Dec Receiving Set Radio AN/ARN-30, -30A, -30B, -30C.
TM 11-6625-219-12P Dec Oscilloscope AN/USM-81.
TM 11-6625-242-10P Dec Test Set, Telephone AN/PTM-6.
TM 11-6625-318-12P Dec Freq Meter AN/URM-32, AN/URM-32A.
TM 11-6625-321-12P Dec Multimeter TS-297/U.
TM 11-6660-203-10 Dec Wind Measuring Sets AN/MMQ-1A, AN/MMQ-1B, AN/PMQ-6.
TM 11-6660-206-10P Dec Rawin Set AN/GMD-1, TA- and -1B.
TM 11-7490-201-12P Dec Recorder-Reproducer Set, Sound AN/FNQ-2, AN/FNQ-2A.
TM 55-404 Dec Fundamentals of Army Airplane Maintenance.

TECHNICAL BULLETINS

TB 9-1000-212-20 Jan Launcher, 762 MM Rocket: Straightness Standards for Launching Beam.
TB 9-1410-250-12/1/1 Jan Pressure with Nitrogen Gas (Nike-Hercules).
TB 9-1410-250-12/1/3, Jan Drill Holes in Booster-Alining Spacer (Blank Panel) 8523325 (Nike-Hercules).
TB 9-1410-250-12/2/1 Jan Checkout, Instal Procedures for Squib-Actiavted Battery BA 472/U (Nike-Hercules).
TB 9-1430-253-20/2 Jan Director Computer: Location and Acess Procedures Info (Nike-Hercules).
TB 9-1430-253-20/4 Dec Kenmore, install Blower Motors (Ajax and Hercules).
TB 9-1430-259-20/3 Jan Missle Tracking Ant-Rec-Trans OA-1485/MPA, Target Track Ant-Rec-Trans OA-1488/MPA: (Nike-Hercules).

MISCELLANEOUS

DA Cir 310-2 Feb Distr Supply, Tech and Tng Pub.
DA Form 12-7 Feb Req for initial Distr of Pubs Blank Forms.
DA Form 2283 Feb Aircraft Log.
DA Pam 310-1 Jan Index Admin Pubs.
DA Pam 750-1-1 Dec Nike Inspection Guide.
SM ORD 7 SNL J-738, Sec 16, Dec Tester, Missile Launcher (Nike-Ajax).

LUBRICATION ORDERS

LO 5-1183-1,-2 Dec Roller, Road, Gasoline and Diesel, 3-Wh, 10-T (Buffalo-Springfield Mods VM-31C VM-32C).
LO 5-1450-200-20-1, -2 Dec Elevator, Hydraulic: Guided Missile, Auto Doors: MIL Type D (Wayne Pump Co).
LO 5-2410-205-20-1, -2, -3.
LO 5-2420-210-20 Dec Industrial Wheeled Tractor (Minneapolis-Moline Mod Big-MO-400M).
LO 5-3825-202-10,-20 Dec Water Distributor Tank Type 1,000 Gal (Macleod Mod W-1M5).

SUPPLY BULLETINS

SB-3-35 Jan Requisit Authorized But Unavailable Chem Items.
SB 9-190 Jan Aiming Circle M2: Add Eyeshield.
SB 11-496 Dec Req Battery BB-221/U Battery Box CH-318 for Sound Ranging Set AN/TNS-3, Sound Locating Set GR-6-A.
SB 11-500 Jan Cable Assys for Interconn Components of Radio Sets AN/FRC-15, -27, -28. AN/FRR-36, -44. AN/TRC-22, -28, -33, -34. AN/VRC-6, 019. AN/VRE-6, -7.

MODIFICATION WORK ORDERS

MWO 9-2350-202-20/3 Dec Urgent M42 SP Twin 40-MM: Instal Helical Compression Spring and New Hinge On Drivers, Commanders, Front Hatch Doors
MWO ORD J739-24-W4, J739-25-W1 Jan Propellant Servicing Kits (Fuel and Oxidizer): Element Sediment Strainer Replace (Corp 11).
MWO ORD Y4-6-W2, J751-W Jan Instruct Change in Hickok Tube Tester KS 15750-L2 (Ajax, Hercules)
MWO ORD Y26-W16 Jan Missile Track Ant-Rec-Trans OA-1485/MPA: Target Track Ant-Rec-Trans OA-1485/MPA: Add Metering Circuit for 2-Volt Bias Supply (Nike-Hercules)
MWO ORD Y28-W24, Y39-W15, C1, Jan (Urgent) Nike-Ajax
MWO ORD Y75-W70 Jan Guided Missile Monorail Launcher M36E1: Eliminate Interfer Launcher Tee-Track Brace w/Elec Recep J13B of Distrib Box (Nike-Hercules)
MWO ORD Y77-W34 Dec Add Holding Springs to Access-Power-Supply-Panel Access Door (Nike-Hercules)
MWO ORD Y77-W39 Dec Change Thermal-Battery-Lanyard-Assy Hardware (Nike-Hercules)

SOLD

Sure! It's frustrating when your supply support people bounce your DA Form 1546 (Request for Issue or Turn-In) with an UNAUTHORIZED FOR ISSUE or IN EXCESS OF ALLOWANCE remark in Block 36. But if you attach your 1546 to a justification letter next time around, you'll save yourself a day or two's delay—and make your support people happy, to boot.

Para 15.1 in Change 1 (4 May 59), AR 725-5 (Sep 58), outlines the procedure to follow in requesting unauthorized and excess end items—including Class IV and nonstandard items.

For repair parts, just cite the authority that gave you the unauthorized or excess end item in Block 36 of your 1546.

Naturally, the planning people are curious about why you'd want any of these items. Some of the things they'd like to know on initial requests for excess or unauthorized items, for example, are:

1. What effect will this item or change in allowance have on your mission?
2. Why do you need it right away?
3. What's your TOE or TA number?
4. Do you think your TOE or TA allowance should or shouldn't be changed? Why?

If the item happens to be nonstandard, or if it's a commercial type item with no stock number, you'd better explain why the standard equipment the Army already has won't do the job . . . especially if it turns out to be a local purchase deal.

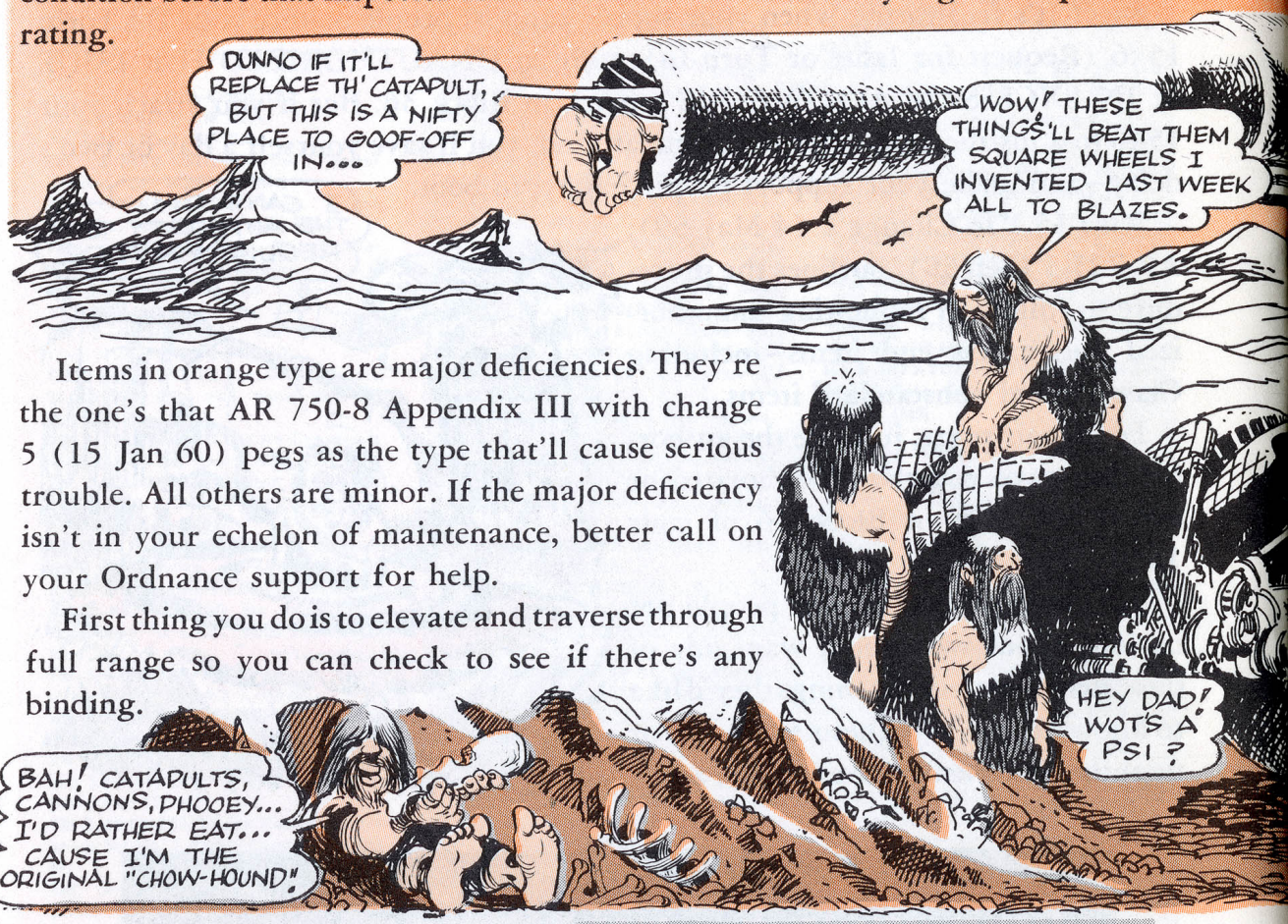
Could be you're already using equipment that's over your authorized allowance or that you aren't allowed to have at all. This could happen when your mission is changed but your authorization stays the same . . . or some other unexpected change. If you want to hold on to this equipment officially, you'll need the same type of letter to justify keeping it.

BE YOUR OWN INSPECTOR ON

THE 8 INCH HOWITZER AND...

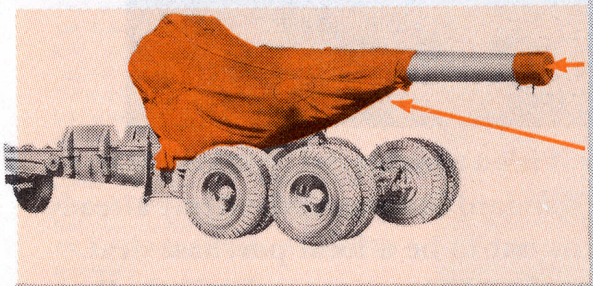
Here's a handy guide for checking your towed 8-inch Howitzer and 155mm Gun.

These are the things the inspector will look for when he's giving your gun the once-over. So, now you can be your own inspector and make sure it's in top-notch condition before that inspector comes around. It's one sure way to get a "Superior" rating.



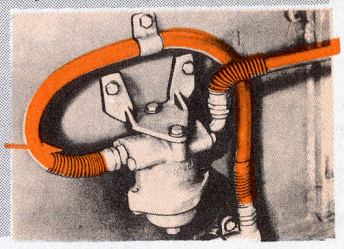
Items in orange type are major deficiencies. They're the one's that AR 750-8 Appendix III with change 5 (15 Jan 60) pegs as the type that'll cause serious trouble. All others are minor. If the major deficiency isn't in your echelon of maintenance, better call on your Ordnance support for help.

First thing you do is to elevate and traverse through full range so you can check to see if there's any binding.



MUZZLE COVER—damaged, rotted, broken straps, buckle missing.

OVERALL COVER—torn, mildewed, rotted, straps broken or missing, dirty, leather pads missing or damaged.



AIR BRAKE HOSES—leaks, cracked, connectors broken, connector gasket damaged, painted or missing.

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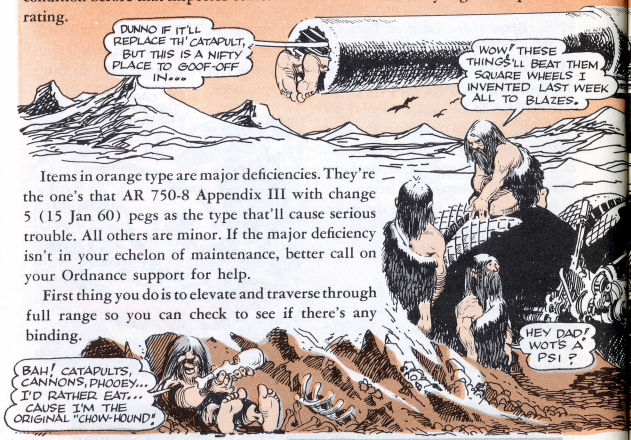

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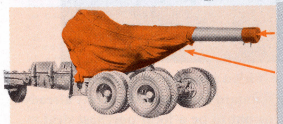

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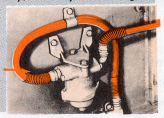
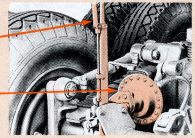


AIR BRAKE HOSES—**leaks, cracked, connectors broken, connector gasket damaged, painted or missing.**

155 MM GUN

HAND BRAKE—**does not lock wheels, lever broken,** damaged, **spring broken,** cotter pins **broken, missing in lever assemblies,** clevis pins loose, worn, missing.

AIR BRAKE DIAPHRAGM—**loose nuts and bolts.**

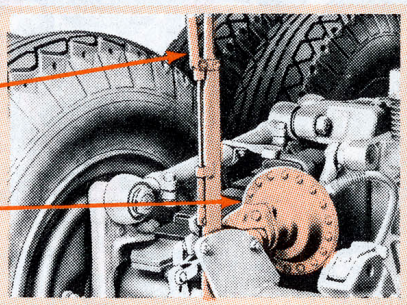


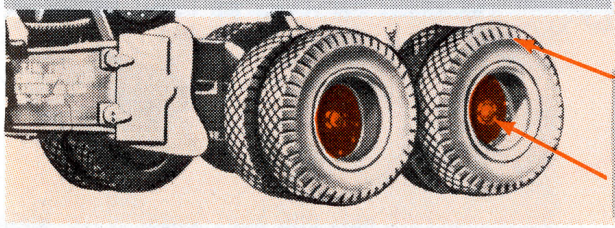
TIRES—excessively worn, weather cracks, incorrect tire pressure.

WHEELS—**lug nuts loose, missing.**

HAND BRAKE—**does not lock wheels, lever broken,** damaged, **spring broken,** cotter pins **broken, missing in lever assemblies,** clevis pins loose, worn, missing.

AIR BRAKE DIAPHRAGM—**loose nuts** and **bolts.**





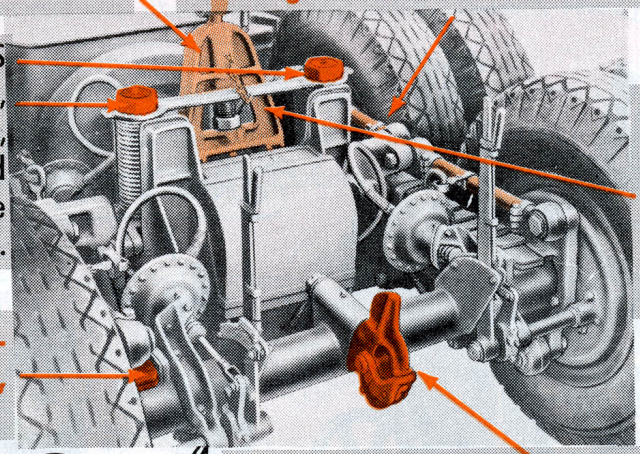
TIRES—excessively worn, weather cracks, incorrect tire pressure.

WHEELS—**lug nuts loose, missing.**

CRADLE LOCK ASSEMBLY—clevis pins and cotter pins broken, missing, locking pin damaged, too loose.

TORQUE RODS—screws to clamp loose, missing, rods bent, loose, torque rod hook bent, broken, missing, yoke rod end cracked, broken, cable frayed, rusted, cotter pin missing.

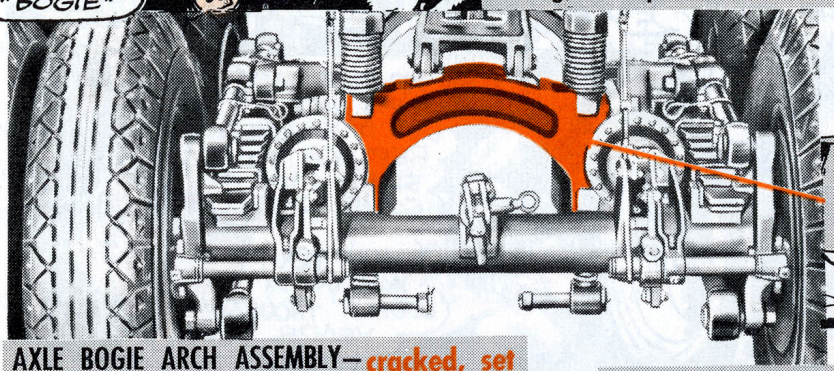
BOGIE LIFTING SCREWS—threads damaged, nuthead damaged, disk loose, flathead screws missing, lube fitting missing, broken.

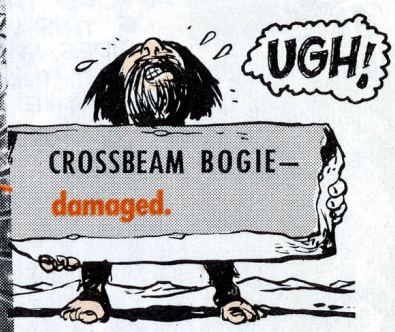


CHAIN ASSEMBLY AND SNAPBOLT — broken, lost, damaged, cradle lock screw nuts loose, cracked, damaged, threads stripped.

BOGIE SPRINGS—damaged, cracked, broken leaves.

BOGIE PINTLE AND LATCH ASSEMBLY—pintle spring broken, cotter pins missing, nuts and bolts loose, lock screw loose, missing, latch pin loose, worn, missing, damaged.

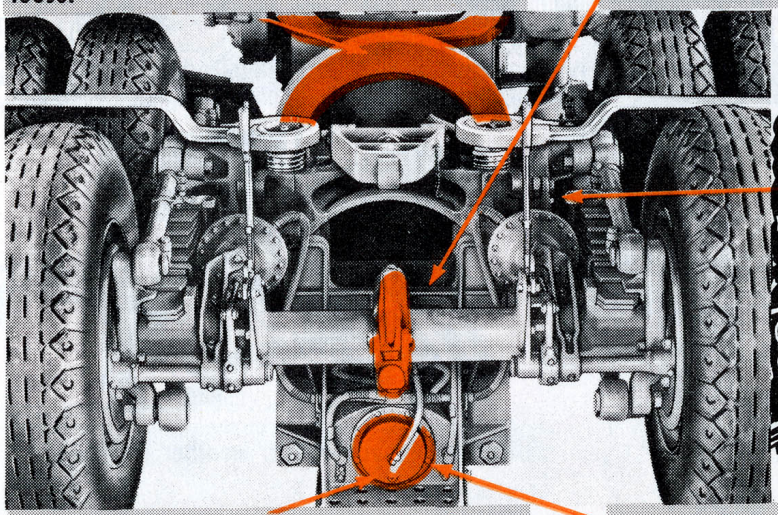




CROSSBEAM BOGIE—damaged.

AXLE BOGIE ARCH ASSEMBLY—cracked, set screws missing, loose, pipe plugs missing, loose.

PINTLE PIN COVER PLATE AND SECURING SCREWS—loose, missing.



REAR BOGIE ALINEMENT INDICATOR—maladjusted, missing, scale dirty, screws

DRAIN COCK—broken, dirty, leaks, loose, plugged up.

AIR RESERVOIR—hose connections loose, hose cracked, nuts and bolts loose.

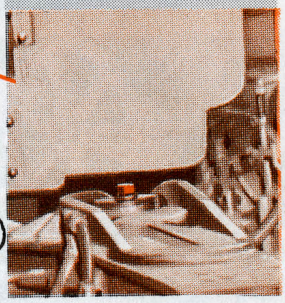
TRAIL DOORS—bent, hinges damaged, **broken.**

TRAIL HINGE PINS—jammed, **frozen, binds.**

RECOIL MECHANISM—loose screws, bolts, **nuts and cotter pins missing.**

DRAIN PLUGS—**broken, missing.**

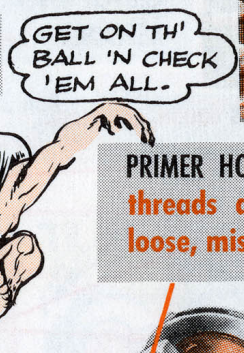
LUBE PIPE PLUG **—missing, damaged.**



REAR SPADE KEYS —missing.

BOTTOM PLUG SECURING SCREW—loose, **missing.**

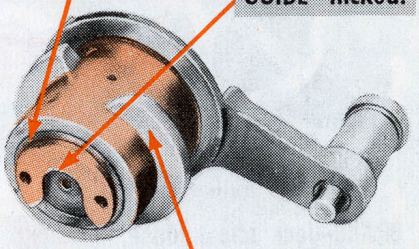
TRAILS—brackets bent, welding cracked, **broken,**



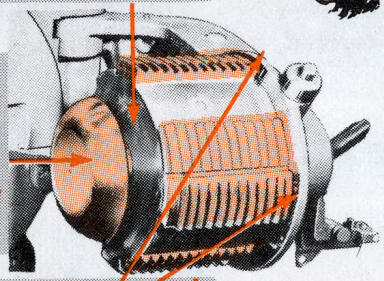
FRONT RING GAS CHECK PAD—**cracked, worn, dirty.**
REAR RING—**dirty,** filler disk dirty, cracked.
INNER RING—**damaged,** dirty.

PRIMER HOLDER—dirty, **cracked, threads damaged, set screws loose, missing.**

FIRING PIN GUIDE—nicked.

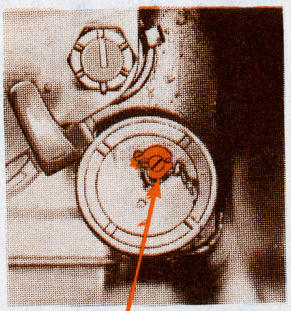


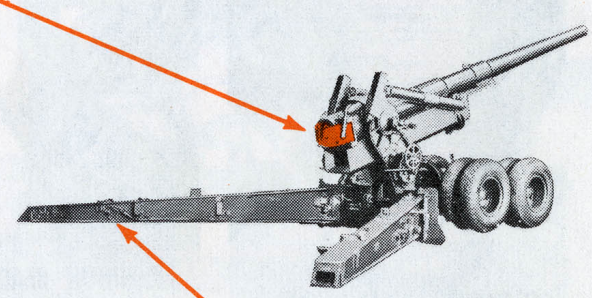
OBTURATOR SPINDLE **—dirty, plugged up, worn, burred.**



BREECHBLOCK—**interrupted threads nicked, dirty, burred.**

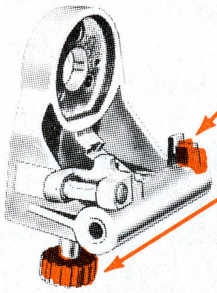
RECEIVER HOUSING—dirty, **cracked, threads burred, dirty, nicked.**





FILLER PLUG—**damaged,** or **missing.** (ref TB ORD 586 for color of paint to be used around filler plug).

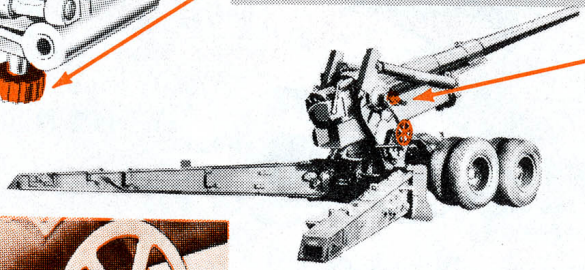
SECURING CHAINS AND SNAPLOCKS —broken, missing.

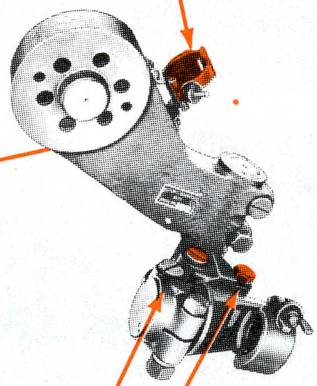


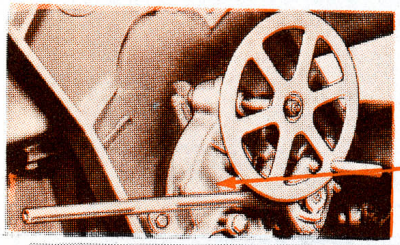
LEVELING PADS—nicked, worn.

LEVELING KNOB—excessive backlash, damaged, wing nut loose.

INSTRUMENT LIGHT BRACKET—bent.



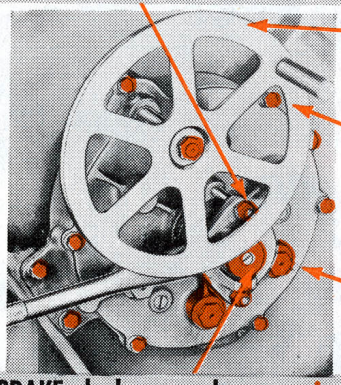




CLUTCH LEVER ASSEMBLY—bent.

TELESCOPE AND QUADRANT MOUNT—loose mounting screws, adjusting screws loose, worn.

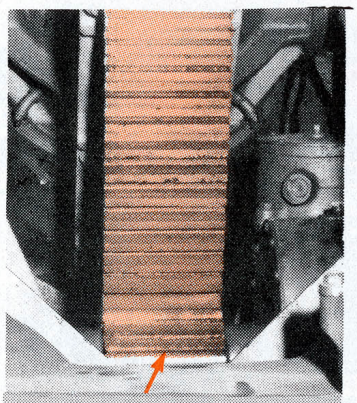
BRAKE SHOE—stud safety nuts loose, cracked.



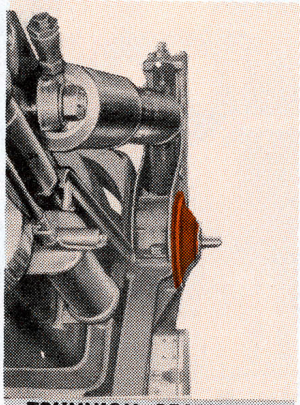
HANDWHEEL—gear housing cover mounting screws loose, nut and lock washer loose, handle bent, seized, damaged, securing nuts loose, missing, plates cracked, too much backlash.

BRAKE LIMIT LOCK—cracked, loose, worn.

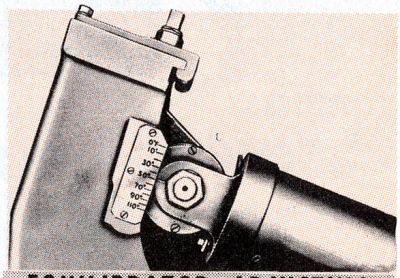
BRAKE—lock screw loose, missing.



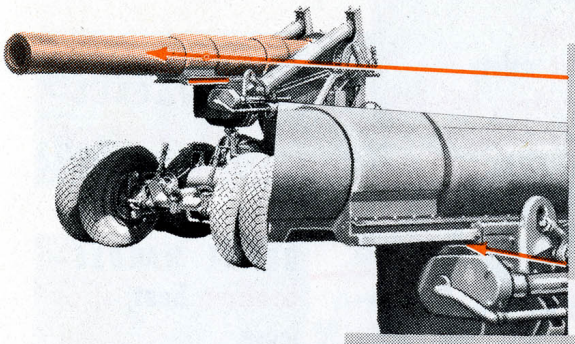
PINION—shaft teeth dirty, bent, burred, arc cracked, teeth nicked, broken, burred.



TRUNNION BEARING—closure caps loose, securing screw missing, cap broken, cap mounting bolts loose.



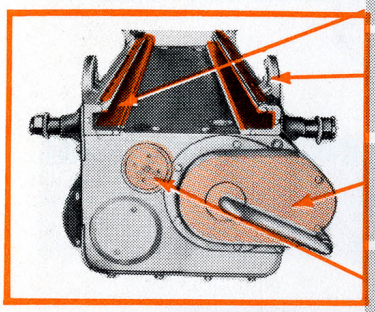
EQUILIBRATOR ADJUSTING GUIDE AND LINER—bearing assembly loose, cover cracked, securing screws and nuts loose or missing, adjusting screw bent, damaged, threads stripped, trunnion retainer loose, adjusting slides damaged, temperature scales dirty, screws loose.



GUN TUBE— excessive carbon in chamber, nicks, sctratches, cracks, rust spots, muzzle cracks, lands show signs of excessive wear, chipped, rifling damaged, exterior gouges, constrictions.

GUN RAIL— loose

WIPERS—excessively worn.



CRADLE GUIDE COVER STRIPS— damaged, screws loose.

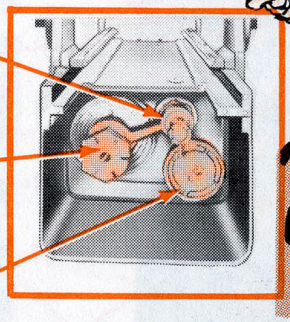
VARIABLE RECOIL COVER— loose, leaking, cracked, securing screws loose.

COUNTERRECOIL CYLINDER HEAD— damaged, dirty, leaks, cracked, loose.

REAR COUNTERRECOIL PISTON ROD— end loose, cotter pin missing, oil leaks.

RECOIL PISTON ROD AND NUT— loose, cotter pin missing, excessive oil leak around piston rod.

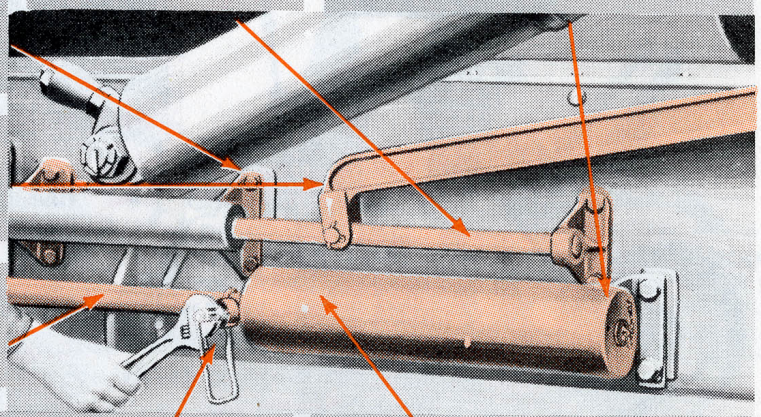
OIL INDEX HOUSING— loose, dirty, index pin retarded or damaged.



VARIABLE RECOIL MECHANISM HOUSING TURNING ROD VALVE BRACKETS—mounting screws and lockwashers loose, missing, bracket cracked.

TURNING VALVE ROD— bent, dirty.

REPLENISHER REAR PLATE—securing screw loose, missing, leaks.



CONNECTING ROD— cracked, bent, loose, pins loose, missing.

REPLENISHER TUBE GUARD— damaged, loose, clamp loose, damaged.

REPLENISHER TUBE— loose, leaks, filling and drain plug loose or missing, plug strap missing, broken, no colored circle painted around filler plug.

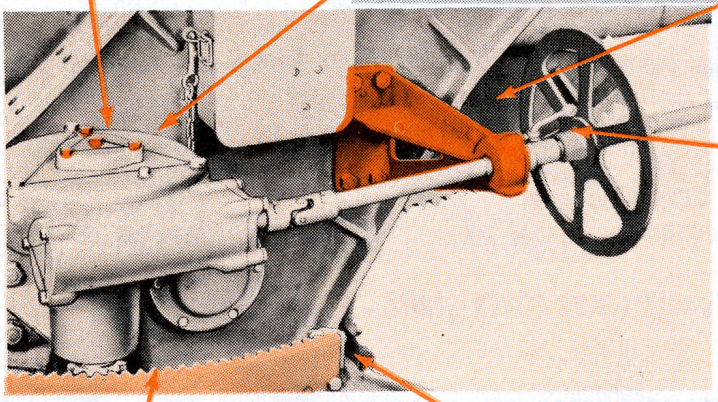
REPLENISHER ASSEMBLY—mounting screws loose, mounting bracket cracked.

LUBE FITTINGS – loose, missing, broken, leaks.

GEAR HOUSING – mounting screws loose, missing, safety wires loose, broken, missing.

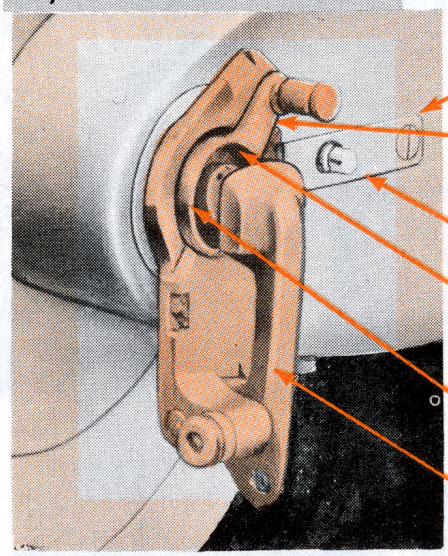
HANDWHEEL TRAVERSING BRACKET – cracked, loose nuts and bolts.

BRAKE HANDLE – broken, bent, slips, loose.



TRAVERSING ARC – loose nuts and bolts, teeth damaged, worn, dirty.

TRAVERSING STOPS – cap screws loose, missing.



SAFETY PLUNGER HOUSING ASSEMBLY – loose screws, plunger damaged.

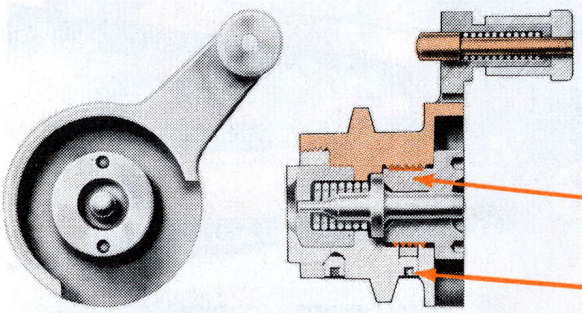
LOCK DETENT – damaged, dirty, dry, detent pin and spring missing, plunger spring frozen.

SAFETY PLUNGER HANDLE – damaged.

FIRING MECHANISM – dirty, springs broken, pins and plungers bent, broken.

FIRING PIN HOUSING – loose, dirty, damaged threads.

FIRING MECHANISM RECEIVER PERCUSSION HAMMER – loose, damaged, cracked, hinge pin loose, worn, locking pin loose, excessively worn.



HANDLE GUIDE AND HANDLE – bent, frozen, dirty.

BLOCK THREAD – damaged, stripped, dirty.

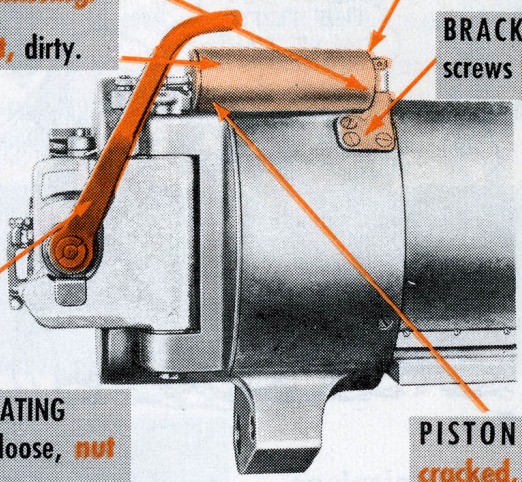
FIRING MECHANISM SHOE – excessively damaged, missing.

CYLINDER HEADS – damaged, **securing screws loose, missing.**

CYLINDER–dented, **bent,** dirty.

COUNTERBALANCE ASSEMBLY BRACKET COLLAR–**cracked,** damaged, **pin missing.**

BRACKET – **cracked,** securing screws **loose, missing.**



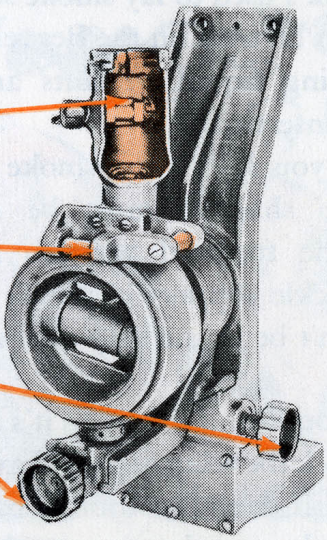
BREECH MECHANISM OPERATING LEVER–**bent,** damaged, loose, **nut and set screw loose.**

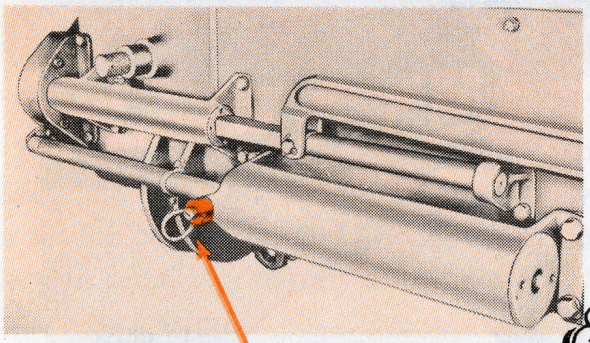
PISTON ROD HEAD – **loose, cracked, excessively worn.**

TELESCOPE SOCKET–burred, bent.

LEVEL VIAL–cover stuck, dirty, broken, wing nut bent, loose, frozen, **vial broken,** dirty.

TELESCOPE MOUNT HOUSING ASSEMBLY–mounting screws loose, missing, knobs damaged, loose.



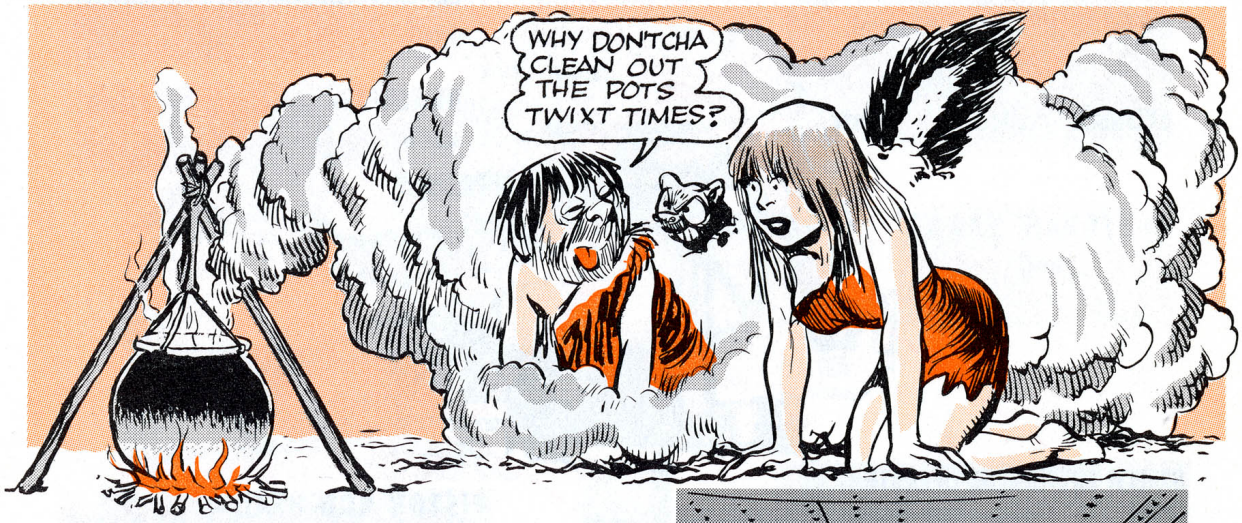


DRAIN PLUGS–broken, **missing.**

PUBLICATIONS AND FORMS–Weapon Record Book, Technical Manual, **Lubrication Order**–torn, missing, illegible, entries in Weapon Record Book not up to date.

TOOLS–missing, damaged, dirty.

AIRPLANE SMOKE TANK M10

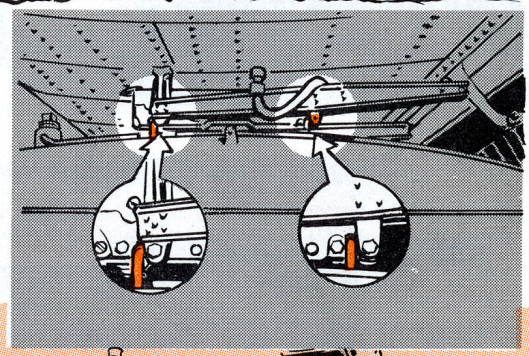


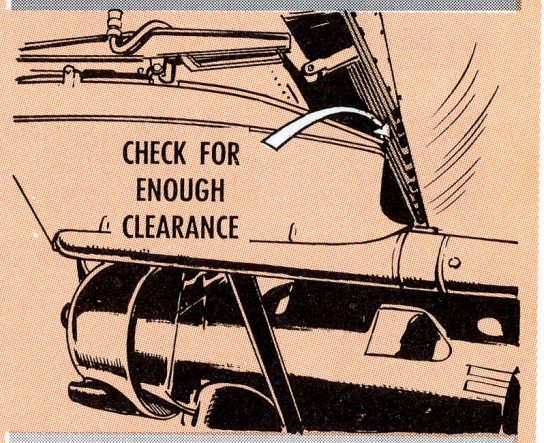
You know that the M10 airplane smoke tank's used to lay smoke screens. It can also be used on the Beavers (L-20) for spraying liquid irritants and for spraying insecticides.

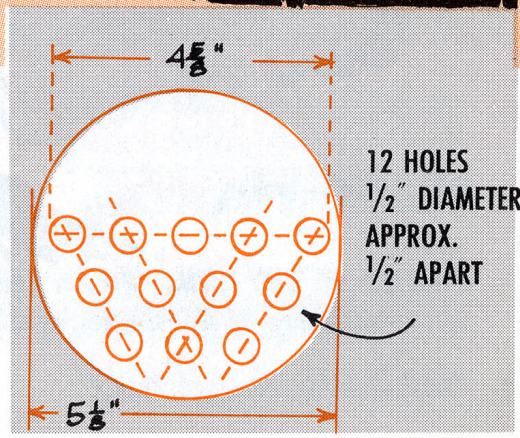
Before you install the smoke tanks, the bomb shackles must be moved toward the forward position in the bomb shackle support channels so the tanks won't be in the way of the wing flaps.

After you install the tanks it's a good idea to check the wing flaps by travelling them to full down position. That way you can make sure there's enough clearance between the end of the tanks and the wing flaps.

When you're going to use the tanks for spraying liquids, it's better to put a round metal plate in the discharge line assembly so you'll get a more effective spray and a wider dispersion. Cut the metal plate out of sheet metal and make it with a 5⅛-inch diameter and 1/16-inch thick. Then drill twelve ½-inch holes in one half of the plate, from the center line to the edge.



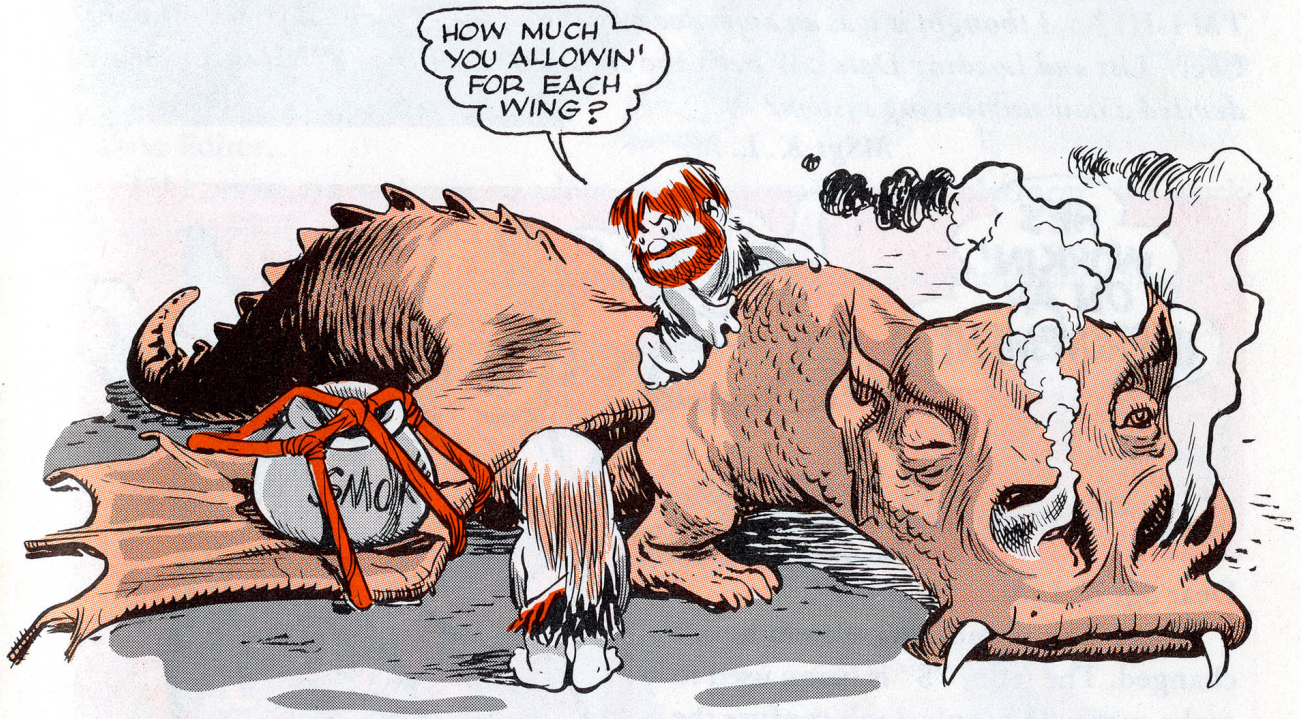




The plate goes between the inner discharge gasket and the discharge seal in the discharge line assembly. The holes go toward the bottom of the discharge line assembly.

When you use four tanks (two under each wing) better make sure you don't overload your plane by filling those tanks too full. Each of the four racks can carry a maximum weight of 250 lbs. The combined weight limit under each wing is 500 lbs.

Weight Of Each Tank (empty)	68 lbs
Insecticide (average)	8 lbs per gallon
CNS	12.5 lbs per gallon
CNB	10.3 lbs per gallon



So before you forget that you're not filling your gas tank and fill it full, better grab a pencil and do some figuring. Keep in mind you're only allowed 500 lbs for each wing.

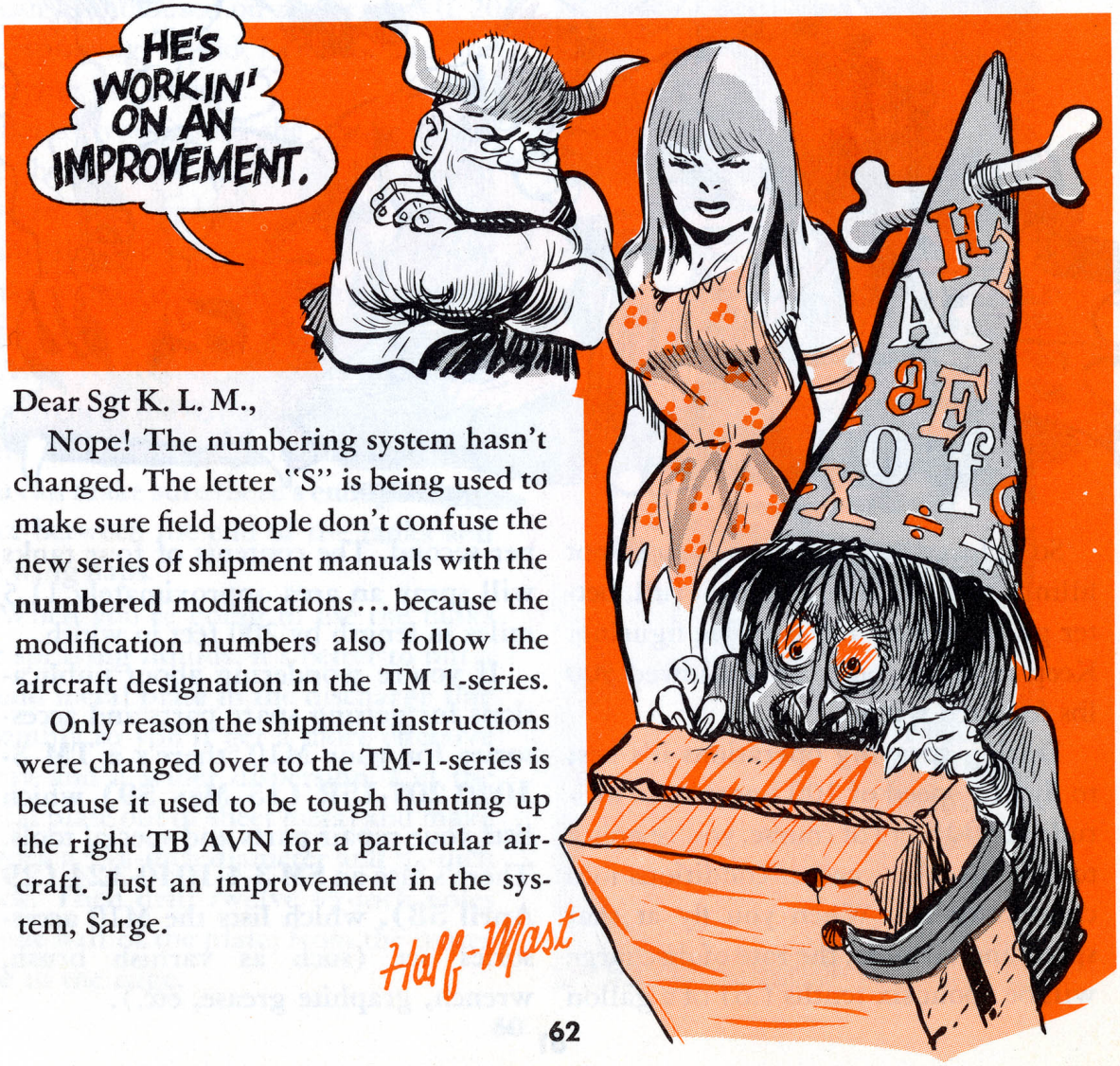
During spraying operations it's best to fly at a speed of 100 knots at an altitude of 100 feet (of course, you're going to have to take weather conditions into consideration). When you fly at that speed and altitude, the rate of discharge will be about six-tenths (.6) of a gallon per second. The contents of four tanks will spray an area approximately 11.5 miles in length by 200 feet in width.

If you're wondering about publications for getting spare parts and accessories for your M10, there's a **TM 3-1040-207-15P (15 May 59)** which lists your repair parts and special tools. There's also an **SM 3-4-1040-A24 (29 April 58)**, which lists the M10 accessories set (such as varnish brush, wrench, graphite grease, etc.).

Dear Half-Mast,

What's with this shipment manual on the H-13? When I first spotted that "S" in TM 1-H13-S, I thought it was an amended version of the -5 manual (Basic Weight Check List and Loading Data). What's the significance of the "S"? Has the Army devised a new numbering system?

MSgt K. L. M.



Dear Sgt K. L. M.,

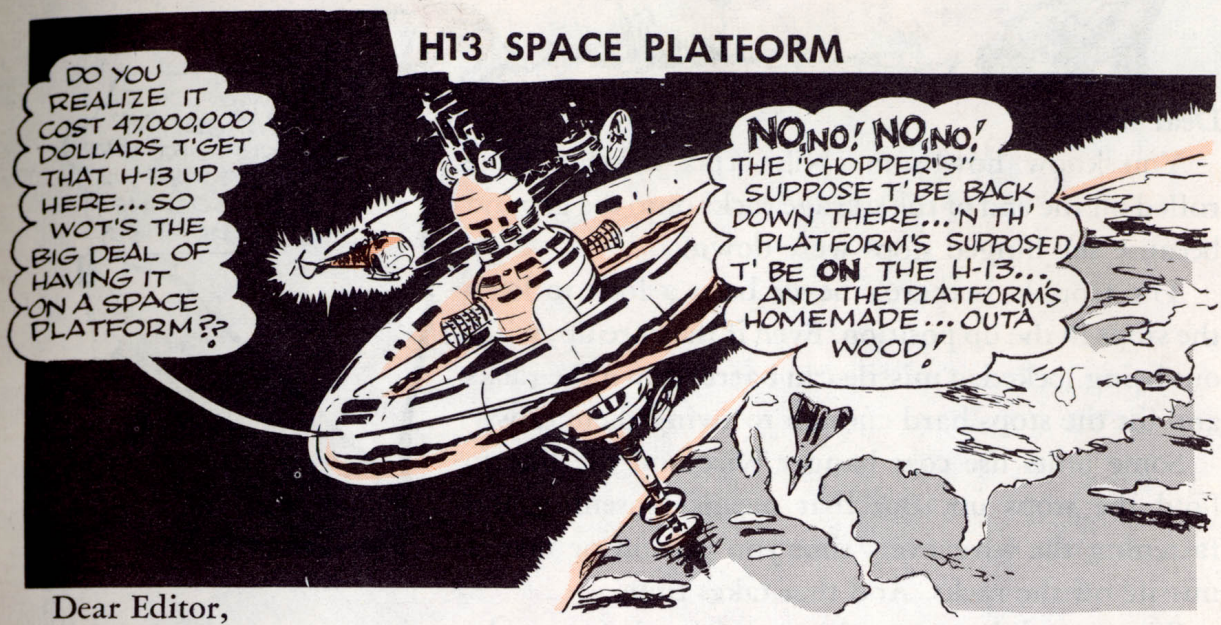
Nope! The numbering system hasn't changed. The letter "S" is being used to make sure field people don't confuse the new series of shipment manuals with the **numbered** modifications... because the modification numbers also follow the aircraft designation in the TM 1-series.

Only reason the shipment instructions were changed over to the TM-1-series is because it used to be tough hunting up the right TB AVN for a particular aircraft. Just an improvement in the system, Sarge.

Half-Mast

CONTRIBUTIONS

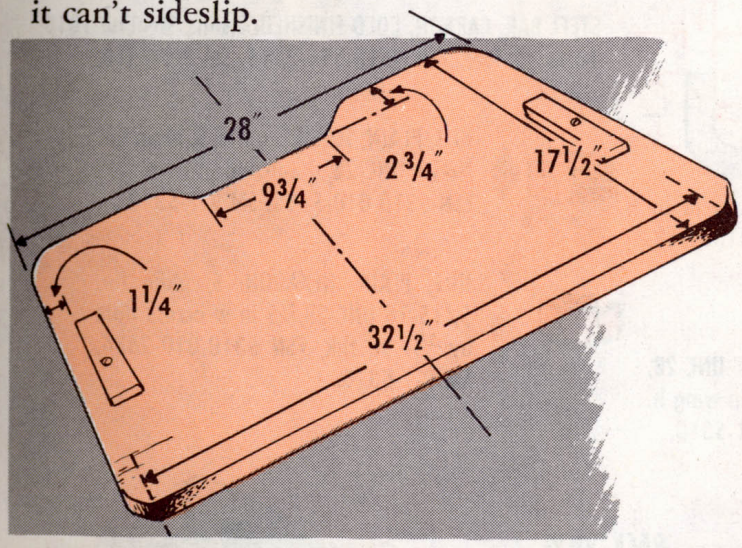
H13 SPACE PLATFORM

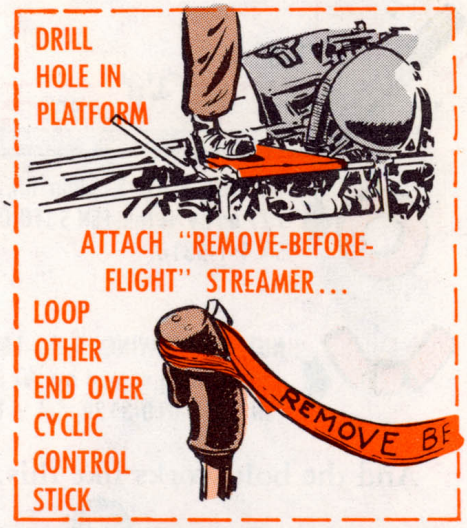


Dear Editor,

H13 crews are welcome to adopt our homemade "space platform" for working around the main rotor.

It's simply a plywood panel, cut to fit over the frame, and cleated below so it can't sideslip.



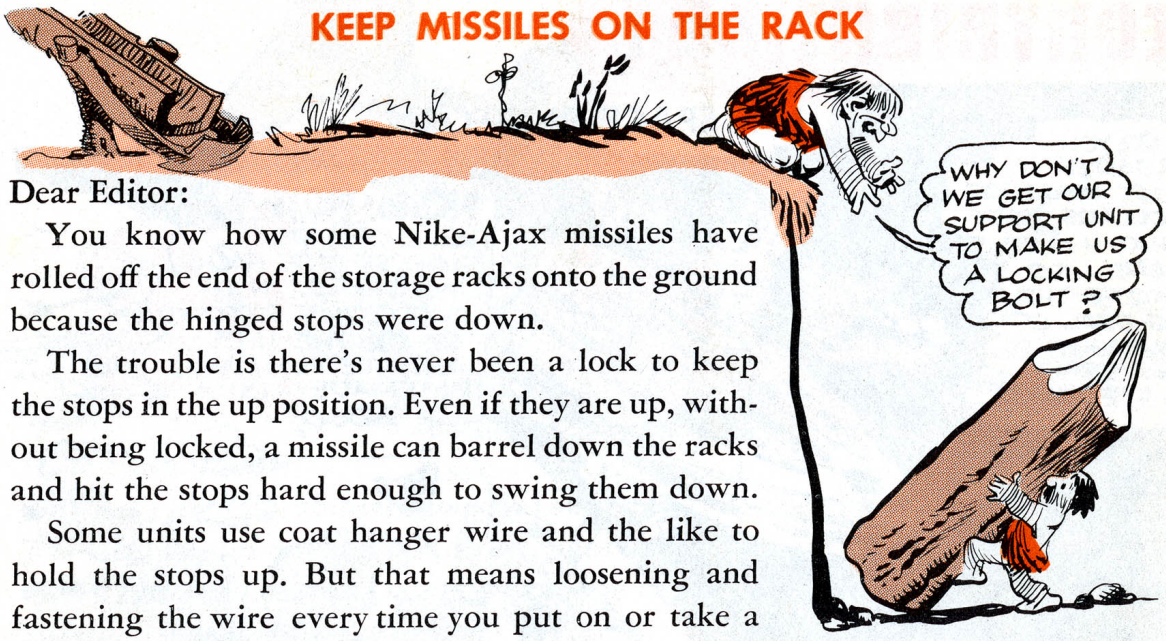


We find it easier to work from the platform, there's less chance of accident—and there's less chance of damage to this aircraft from guys crawling over the frame and shaft.

Aircraft Maintenance Section
Camp Irwin, California

(Ed. Note—Skinned shins and skins mother another invention. Good deal. But you'll want to drill a hole in the platform so you can attach a "remove-before-flight" STREAMER. Loop the other end of the streamer over the cyclic control stick, like in PS 74, Page 46.)

KEEP MISSILES ON THE RACK



Dear Editor:

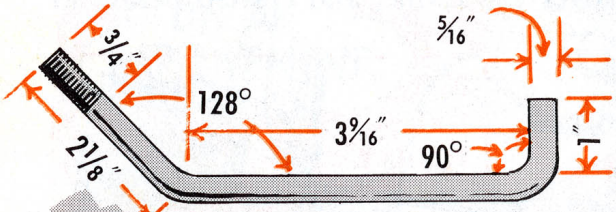
You know how some Nike-Ajax missiles have rolled off the end of the storage racks onto the ground because the hinged stops were down.

The trouble is there's never been a lock to keep the stops in the up position. Even if they are up, without being locked, a missile can barrel down the racks and hit the stops hard enough to swing them down.

Some units use coat hanger wire and the like to hold the stops up. But that means loosening and fastening the wire every time you put on or take a missile off the racks. And that takes time.

What we did was get the support unit for our batteries to make what we call a locking bolt. They made four for each section.

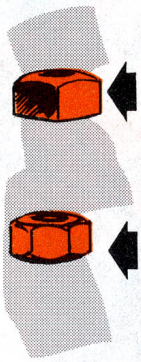
The components and their dimensions shape up this way:



STEEL BAR, CARBON, COLD FINISHED: 5/16 in., Steel no 1018, 10 to 12 feet, FSN 9510-596-2315, SM 9-1-9510.

WASHER, FLAT: S, plain fin, 3/8 id by 7/7 od by 1/16 thk, FSN 5310-010-6262, SM 9-1-5310.

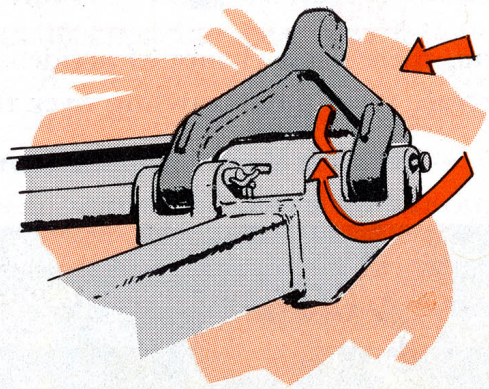
NUT, PLAIN, WING: S, 5/16-18 UNC-2B, 1 3/16 in. wing spread by 19/64 in wing h. FSN 5310-010-3128, SM 9-1-5310.

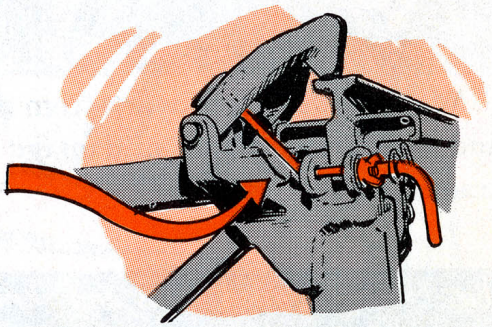


NUT, PLAIN, SQUARE: unfin, S, plain fin: 5/16-18 UNC-2B, 9/16-in wd, 17/64 in thk, FSN 5310-010-5605, SM 9-1-5310.

NUT, PLAIN, HEXAGON: S, plain fin, 5/15-18 UNC-2B, 1/2 in w across flats by 17/64 in. thk, FSN 5310-010-2634, SM 9-1-5310.

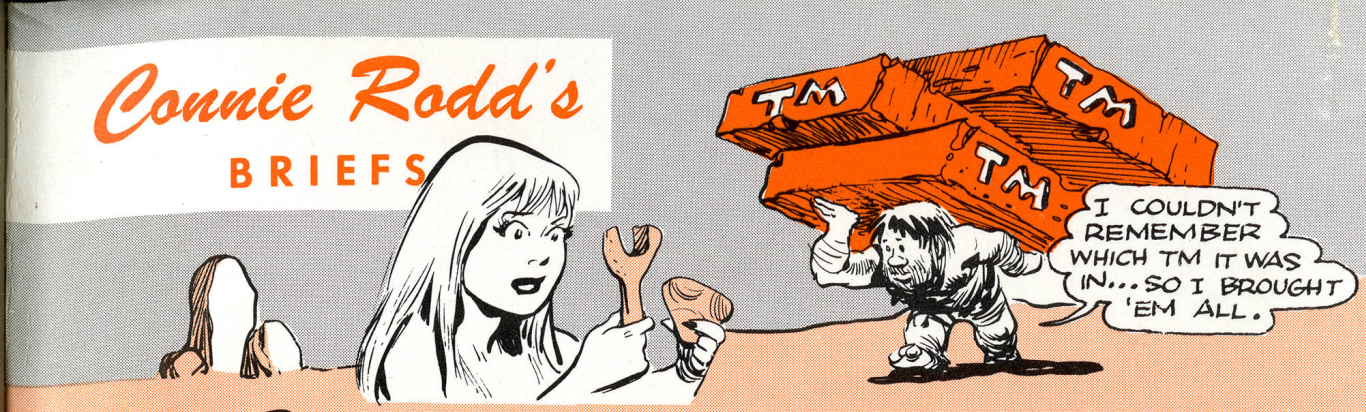
And the bolt works like this:





Carlo Piluso, OCMT
Presidio of
San Francisco

Connie Rodd's BRIEFS



But not for you

You M53 SP gun and M55 8-in howitzer crewmen . . . nitrogen filling for your weapons' equilibrator systems is strictly a job for your Ordnance support unit. Para 349 c(1) of TM 9-7212 and TM 9-7220 applies only to the upper echelons.

Change your paint

You need a paint that'll hold up when it comes to protecting battery hold-downs, boxes and trays. Otherwise, just removing and installing your batteries will scratch or crack the paint film enough to open the door to acid-caused corrosion. That's why the Engineers are making Compound, bituminous, solvent Type (FSN 8030-290-5141) available. For aircraft aluminum surfaces close to batteries, latch on to the lacquer in Fed Spec TT-L-54, w/amend. #1 (2 Aug 51). FSN 8010-290-6158 (ENG) is good for a gallon.

Unload 'em

That headrest (FSN 1240-346-8243) on your M104A1 sight mount is no longer needed aboard the M48A2 Tank, and the M59 APC and M84 SP 4.2 Mortar. It can't be used with a helmet nohow, so turn it in to your support and they'll take care of 'em.

39-series pubs

If you're interested in knowing how to get your Special Weapons pubs (39-series TM's) on an automatic basis by the new direct distribution system, DA Circular 310-90 (15 Dec 59) gives the scoop on the why's and wherefore's of using DA Form 12-6 and DA Form 17.

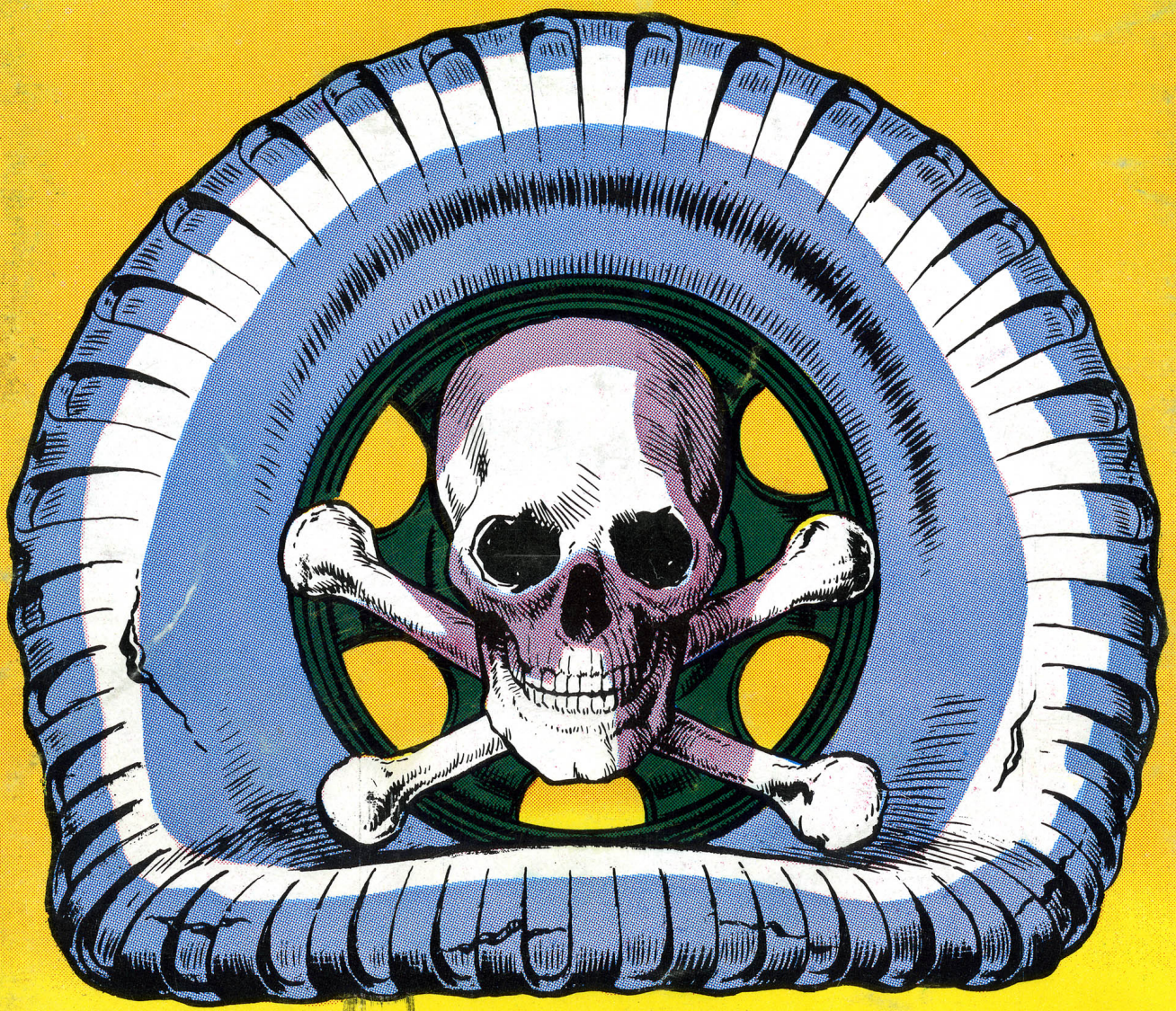
All about oil

Supply-wise, you can't beat SM 10-1-C4-1 (Sept 59), Petroleum, Petroleum-Base Products and Related Materiel, for the all-around lowdown on fuels, lubes, oils and waxes—all the FSC Group 91 items. Part 1 describes the item and gives you the Federal Stock Number. Part 2 contains the Army Supplementary Supply Management Data, which'll tell you where and how to order it.

Steer easy

Those ball joint connections in the steering mechanism of the M56 SP 90-mm Scorpion are strong enuff for normal operation—they weren't made for cowboying around or shock treatment. If a connection breaks, you'll lose control of the vehicle because you'll have no steer. So, no fancy maneuvers or "hard" steers.

Would You Stake Your Life on the Condition of Your Equipment?



MURDER

YOU'RE KILLING TIRES AND WASTING
MONEY WHEN YOU EITHER UNDERINFLATE
OR OVERINFLATE

SEE YOUR VEHICLE'S TM FOR THE RIGHT PRESSURE